DOCUMENT RESUME

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ABSTRACT

This bibliography contains 442 journal article, book, and audiovisual citations on global warming and the greenhouse effect entered into the National Agricultural Library's AGRICOLA database between January 1979 and March 1992. The bibliography contains an author and subject index as well as information on obtaining documents. (LZ)

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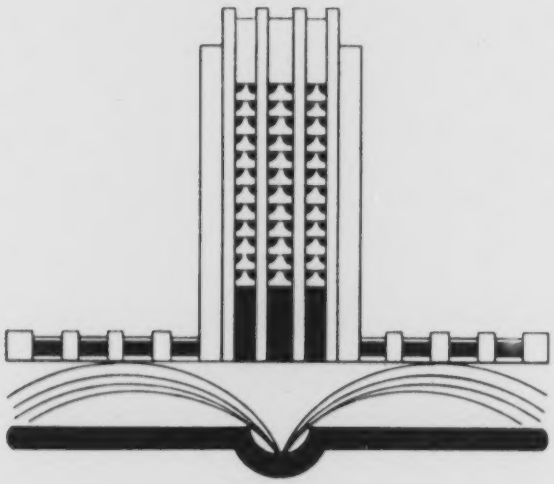
Global Warming and the Greenhouse Effect

January 1986 - January 1992

QB 92-36
Quick Bibliography Series

ED 387 311



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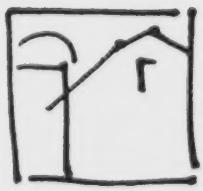
Global Warming and the Greenhouse Effect

January 1986 - January 1992

Quick Bibliography Series: QB 92-36
Updates QB 90-56

442 citations in English from AGRICOLA

Jayne T. MacLean
Alternative Farming Systems Information Center



Alternative Farming Systems

National Agricultural Library Beltsville, Maryland 20705-2351 March 1992

National Agricultural Library Cataloging Record:

MacLean, Jayne T.
Global warming and the greenhouse effect.
(Quick bibliography series ; 92-36)
1. Global warming – Bibliography. 2. Greenhouse effect, Atmospheric – Bibliography. I. Title.
aZ5071.N3 no.92-36

AGRICOLA

Citations in this bibliography were
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and the present.

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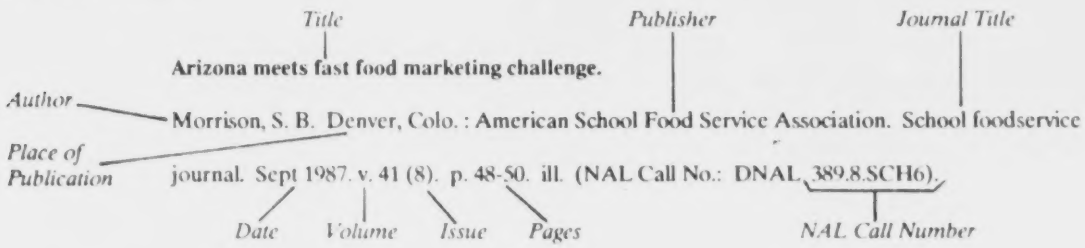
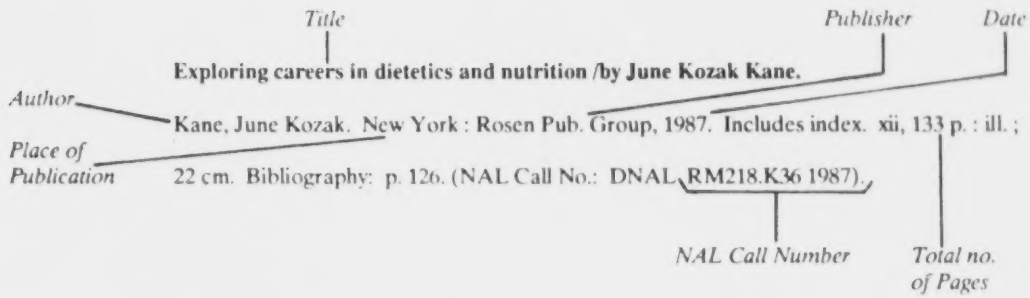
Citations in this bibliography are from the National Agricultural Library's AGRICOLA database. An explanation of sample journal article, book, and audiovisual citations appears below.

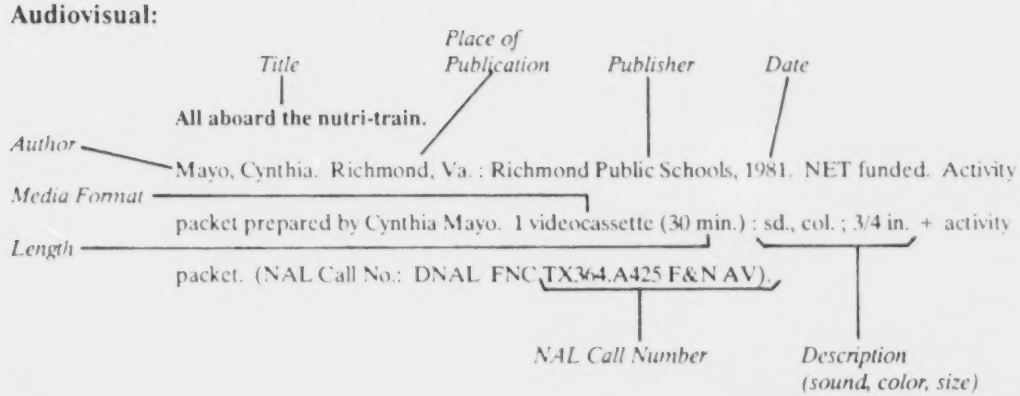
Journal Article:



Book:


Title
Publisher
Date
Exploring careers in dietetics and nutrition /by June Kozak Kane.
Author
Kane, June Kozak. New York : Rosen Pub. Group, 1987. Includes index. xii, 133 p. : ill. ;
Place of Publication
22 cm. Bibliography: p. 126. (NAL Call No.: DNAL RM218.K36 1987).
NAL Call Number
Total no. of Pages

Audiovisual:


Title
Place of Publication
Publisher
Date
All aboard the nutri-train.
Author
Mayo, Cynthia. Richmond, Va. : Richmond Public Schools, 1981. NET funded. Activity
Media Format
packet prepared by Cynthia Mayo. 1 videocassette (30 min.) : sd., col. ; 3/4 in. + activity
Length
packet. (NAL Call No.: DNAL FNC TX364.A425 F&N AV).
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Agriculture University
Heartland, IA 56789

Dr. Smith Faculty Ag School

Canadian Journal of Soil Science 1988 v 68(1): 17-27
DeJong, R. Comparison of two soil-water models under semi-arid growing conditions
Ver: AGRICOLA
Remarks: Not available at IU or in region.
NAL CA: 56.8 C162

Auth: C. Johnson CCL Maxcost: $15.00

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GLOBAL WARMING AND THE GREENHOUSE EFFECT

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Line  Command
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   2. SS SH=8200 AND WARMING
   3. S S1 OR S4
   4. S5 S5 OR GLOBAL/TI,DE(1D)WARMING/TI,DE
   5. S6 S4 OR GREENHOUSE/TI,DE(1D)EFFECT?/TI,DE
   6. SS S2 AND CLIMAT?/TI,DE(N)WARMING/TI,DE
   7. S S17 OR S13
   8. S S2 AND CLIMAT?(1D)CHANGE?/TI,DE
   9. S S18 OR S19
  10.  SS  OZONE  AND  (STRATOSPHER?  OR  HOLE  OR  DEPLETION  OR
      DESTRUCTION)
  11. S S20 OR S26
  12.  SS (RADIATION  OR  IRRADIA?)  AND  (UV? OR  ULTRAVIOLET  OR
      ULTRA(1D)VIOLET)
  13. S S2 AND S35
  14. S S36 OR S27
  15. S S37 NOT PALEO?
  16.  SS  (GREENHOUSE(1D)GAS?  OR  METHANE  OR  NITROUS(1D)OXIDE  OR
      CARBON(1D)DIOXIDE) AND EMISSION?
  17. S S38 OR S50
  18. S S51 AND S2
  19. L52/ENG
  20. S S53 AND UD=8501:9999
  21. SS S54 AND UD=8601:9999
```

GLOBAL WARMING AND THE GREENHOUSE EFFECT

1 NAL Call No: 472 N21

A 1,400-year tree-ring record of summer temperatures in Fennoscandia.

Briffa, K.R.; Bartholin, T.S.; Eckstein, D.; Jones, P.D.; Karlen, W.; Schweingruber, F.H.; Zetterberg, P.

London : Macmillan Magazines Ltd; 1990 Aug02.

Nature v. 346 (6283): p. 434-439; 1990 Aug02. Includes references.

Language: English

Descriptors: Sweden; Pinus sylvestris; Woody plants; Growth rings; Temperatures; Summer; Historical records

Abstract: Tree-ring data have been used to reconstruct the mean summer (April-August) temperature of northern Fennoscandia for each year from AD 500 to the present. Summer temperatures have fluctuated markedly on annual, decadal and century timescales. There is little evidence for the existence of a Medieval Warm Epoch, and the Little Ice Age seems to be confined to the relatively short period between 1570 and 1650. This challenges the popular idea that these events were the major climate excursions of the first millennium, occurring synchronously throughout Europe in all seasons. An analysis of past warming trends suggests that any summer warming induced by greenhouse gases may not be detectable in this region until after 2030.

2 NAL Call No: QH540.N3

Action spectra and their key role in assessing biological consequences of solar UV-B radiation change.

Caldwell, M.M.; Camp, L.B.; Warner, C.W.; Flint, S.D.

Berlin, W. Ger. : Springer-Verlag; 1986.

N.A.T.O. A.S.I (Advanced Study Institute) series. Series G. Ecological sciences v. 8: p. 87-111; 1986. Paper presented at the "Workshop on The Impact of Solar Ultraviolet Radiation upon Terrestial Ecosystems: 1. Agricultural Crops," Sept 27-30, 1983, Windsheim, West Germany. Includes references.

Language: English

Descriptors: Plant damage; Ultraviolet radiation; Ozone; Reduction; Wavelengths; Photosynthesis; Inhibition; Latitude

3 NAL Call No: QC882.A35

Aerosols and climate.

Hobbs, Peter Victor,1936-; McCormick, M. Patrick International Association of Meteorology and Atmospheric Physics, International Union of Geodesy and Geophysics, General Assembly1987 :University of British Columbia)

Symposium on Aerosols and Climate 1987 : University of British Columbia.

Hampton, Va., USA : A. Deepak Pub.; 1988.

ix, 486 p. : ill. ; 24 cm. (Studies in geophysical optics and remote sensing). Selected papers from the Symposium on Aerosols and Climate organized by the International Association of Meteorology and Atmospheric Physics at the XIX General Assembly of the International Union of Geodesy and Geophysics, held at the University of British Columbia, Vancouver, Canada, 9-22 August 1987. Includes bibliographies and indexes.

Language: English

Descriptors: Aerosols; Congresses; Climatic changes; Congresses; Troposphere; Congresses; Stratosphere; Congresses

4 NAL Call No: 18 J825

After-effect of elevated night temperature and heat-preconditioning on net carbon dioxide exchange and grain development in Sorghum bicolor L.

Ogunlela, V.B.; Eastin, J.D.

Berlin, W. Ger. : Paul Parey; 1985 May.

Zeitschrift fur Acker- und Pflanzenbau; Journal of agronomy and crop science v. 154 (3): p. 182-192; 1985 May. Includes references.

Language: English

Descriptors: Nebraska; Sorghum bicolor; Carbon dioxide; Gas exchange; Cereals; Plant development; Growth stages; Heat; Night temperature; Field experimentation

5 NAL Call No: SB192.C2C2

Afternoon session, April 4, 1989: The greenhouse gases.

Dever, D.

Winnipeg : The Council; 1989.

Proceedings of the annual meeting - Canada Grains Council (20): p. 82-115; 1989. Meeting held April 4-5, 1989, Winnipeg, Manitoba. Discussion p. 183-185.

Language: English

Descriptors: Climatic change; Atmosphere

6 NAL Call No: 1.98 AG84

Agriculture and the greenhouse effect.
Miller, S.; Senft, D.
Washington, D.C. : The Administration; 1988 Mar.
Agricultural research - U.S. Department of Agriculture, Agricultural Research Service v. 36 (3): p. 6-9. ill; 1988 Mar.

Language: English

Descriptors: U.S.A.; Carbon dioxide; Climatic factors; Crop yield; Greenhouse crops; Greenhouse culture; Temperatures

7 **NAL Call No: QC903.A37**
Agriculture, forestry, and global climate change, a reader.
Library of Congress, Congressional Research Service, United States, Congress, Senate, Committee on Agriculture, Nutrition, and Forestry
Washington : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.Ag 8/3:S.prt.101-26.
ix, 618 p. : ill., maps ; 23 cm. (S. prt. ; 101-26). At head of title: 101st Congress, 1st session. Committee print. April 1989. Includes bibliographies.

Language: English

Descriptors: Global temperature changes; Environmental aspects; Greenhouse effect, Atmospheric; Climatic changes; Environmental aspects; Crops and climate; Meteorology, Agricultural; Forest meteorology

8 **NAL Call No: 10 OU8**
Agrometeorology and model building.
Hume, C.J.; Callander, B.A.
Oxon : C.A.B. International; 1990.
Outlook on agriculture v. 19 (1): p. 25-30. maps; 1990. Includes references.

Language: English

Descriptors: Agricultural meteorology; Climatic change; Mathematical models; Statistical methods

9 **NAL Call No: S541.5.A4M57**
Alaskan plants and atmospheric carbon dioxide.
Sveinbjornsson, B.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 149-154; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Carbon dioxide; Climatic change; Photosynthesis; Vegetation; Botanical composition

10 **NAL Call No: 470 SCI2**
Amazon deforestation and climate change.
Shukla, J.; Nobre, C.; Sellers, P.
Washington, D.C. : American Association for the Advancement of Science; 1990 Mar16.
Science v. 247 (4948): p. 1322-1325. maps; 1990 Mar16. Includes references.

Language: English

Descriptors: South America; Deforestation; Climatic change; Temperature; Evapotranspiration; Models

Abstract: A coupled numerical model of the global atmosphere and biosphere has been used to assess the effects of Amazon deforestation on the regional and global climate. When the tropical forests in the model were replaced by degraded grass (pasture), there was a significant increase in surface temperature and a decrease in evapotranspiration and precipitation over Amazonia. In the simulation, the length of the dry season also increased; such an increase could make reestablishment of the tropical forests after massive deforestation particularly difficult.

11 **NAL Call No: QC980.4.H3**
An annotated inventory of climatic indices and data sets.
Hattemer-Frey, Holly A.; Quinlan, Frank T.; Karl, Thomas
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washinton, D.C. : U.S. Dept. of Energy, [1986?]; 1986.
xv, 195 p. : ill. ; 28 cm. November 1986. DOE/NBB-0080. Dist. Category UC-11. TR035. Prepared under contract no. DE-AC05-84OR21400. Includes bibliographical references (p. 187-195).

Language: English

Descriptors: Climate; Indexes; Meteorological observations; Indexes

12 **NAL Call No: SD390.7.G73G74**
An approach for generating climate change hypotheticals given limitations in current climate models.
Gibbs, M.J.; Hoffman, J.S.
Washington, D.C. : Conservation Foundation; 1987.

The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 91-111. maps; 1987.

Language: English

Descriptors: Climatic change; Models; Prediction; World problems; Thermal radiation

13 **NAL Call No: KF26.C697 1989**

Arctic and Antarctic ozone depletion hearing before the Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation, United States Senate, One Hundred First Congress, first session ... February 23, 1989.

United States. Congress. Senate. Committee on Commerce, Science, and Transportation. Subcommittee on Science, Technology, and Space

Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.C 73/7:S.hrg.101-53.

iii, 160 p. : ill. ; 24 cm. (S. hrg. ; 101-53). Distributed to some depository libraries in microfiche.

Language: English

Descriptors: Ozone layer depletion; Atmospheric ozone; Arctic Regions; Atmospheric ozone; Antarctic Regions; Environmental protection

14 **NAL Call No: QH543.P76**

Are land biota a source or a sink for CO2? (A simulation study for the global carbon cycle, including man's impact on the biosphere).

Goudriaan, J.; Ketner, P.

Lisse : Swets & Zeitlinger; 1984.

Progress in biometeorology v. 3: p. 247-252. ill; 1984. Paper presented at the "Symposium on Interactions between Climate and Biosphere," March 21-23, 1983, Osnabruck, West Germany. Includes references.

Language: English

Descriptors: Carbon cycle; Carbon dioxide; Biota; Simulation models; Ecosystems; Land use; Deforestation; Source sink relations

15 **NAL Call No: 99.8 F768**

Ashes in the Amazon.

Savonen, C.

Bethesda, Md. : Society of American Foresters; 1990 Sep.

Journal of forestry v. 88 (9): p. 20-25. ill; 1990 Sep. Includes references.

Language: English

Descriptors: Brazil; Venezuela; Tropical forests; Deforestation; Burning; Ecosystems; Environmental degradation; Climatic change; Population pressure; Shifting cultivation; Resource conservation

16 **NAL Call No: SB123.3.C57**

Aspects of photosynthetic biochemistry and climatic change.

Woolhouse H.W.

New York : Belhaven Press; 1990.

Climatic change and plant genetic resources / edited by M.T. Jackson, B.V. Ford-Lloyd, M.L. Parry. p. 34-39; 1990. Includes references.

Language: English

Descriptors: Climatic change; Carbon dioxide; Gases; Interactions; Photosynthesis; Plant communities; Plant physiology; Biochemistry

17 **NAL Call No: SD13.C35**

Assessing economic benefits of climate change on Canada's boreal forest.

Kooten, G.C. van; Arthur, L.M.

Ottawa, Ont. : National Research Council of Canada; 1989 Apr.

Canadian journal of forest research; Journal canadien de recherche forestiere v. 19 (4): p. 463-470. maps; 1989 Apr. Includes references.

Language: English

Descriptors: Canada; Boreal forests; Climatic change; Forestry; Economic impact; Productivity; Mathematical models; Carbon dioxide

18 **NAL Call No: SB123.3.C57**

An assessment of the effects of climatic change on agriculture.

Parry, M.L.; Carter, T.R.

New York : Belhaven Press; 1990.

Climatic change and plant genetic resources / edited by M.T. Jackson, B.V. Ford-Lloyd, M.L. Parry. p. 61-84. maps; 1990. Includes references.

Language: English

Descriptors: Finland; Iceland; Japan; Saskatchewan; U.S.S.R.in europe; Climatic change; Air temperature; Cold zones; Temperate climate; Agricultural research; Economic policy; Environmental impact reporting; Yield response functions

19 **NAL Call No: S541.5.A4M57**

Atmospheric and oceanographic measurement

needed for establishment of data base.
Keeling, C.D.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 11-22; 1984 Mar. Includes references.

Language: English

Descriptors: Carbon dioxide; Cycling in ecosystems; Fossil fuels; Deforestation; Climatic factors; Oceanography

20 **NAL Call No: QC879.8.A84**
Atmospheric carbon dioxide and the greenhouse effect. (Greenhouse effect.)
United States, Dept. of Energy, Office of Basic Energy Sciences
Washington, D.C. : The Dept. ; Springfield, Va. : Available from the National Technical Information Service, U.S. Dept. of Commerce, [1989?]; 1989.
36 p. : ill., maps ; 28 cm May 1989. DOE/ER-0411. UC-11. Includes bibliographical references (p. 36).

Language: English

Descriptors: Atmospheric carbon dioxide; Greenhouse effect, Atmospheric; Greenhouse effect, Atmospheric; Research

21 **NAL Call No: QH301.B52**
Atmospheric carbon dioxide from deforestation in Southeast Asia.
Palm, C.A.; Houghton, R.A.; Melillo, J.M.; Skole, D.L.
St. Louis : Association for Tropical Biology; 1986 Sep.
Biotropica v. 18 (3): p. 177-188. ill; 1986 Sep. Includes references.

Language: English

Descriptors: South east asia; Deforestation; Carbon; Carbon dioxide; Tropical forests; Tropics; Land use; Shifting cultivation; Land clearance; Ecosystems; Biomass

22 **NAL Call No: QC879.8.S5**
An atmospheric carbon dioxide review and consideration of the mean annual temperature trend at Saskatoon, Saskatchewan.
Shewchuk, S. R.
Saskatchewan Research Council
Saskatoon, Saskatchewan : Saskatchewan Research Council; 1984.
v, 26 leaves : ill. ; 28 cm. (SRC technical report ; no. 160). July, 1984. SRC publication no. E-906-26-B-84. Bibliography: leaves 23-24.

Language: English

Descriptors: Atmospheric carbon dioxide, Saskatchewan; Atmospheric temperature, Saskatchewan; Global temperature changes

23 **NAL Call No: Q11.J68**
Atmospheric response to 1988 drought conditions and future climate implications.
McCorcle, M.D.
Cedar Falls, Iowa : The Academy; 1990 Sep.
The Journal of the Iowa Academy of Science : JIAS v. 97 (3): p. 84-87. maps; 1990 Sep. Includes references.

Language: English

Descriptors: U.S.A.; Atmosphere; Climatic change; Drought; Soil water; Wind speed

24 **NAL Call No: 500 AS73**
The average surface temperature of the earth: an energy budget approach.
Pease, R.W.
Washington, D.C. : The Association; 1987 Sep.
Annals of the Association of American Geographers v. 77 (3): p. 450-461. ill; 1987 Sep. Includes references.

Language: English

Descriptors: Climate; Energy balance; Temperature; Carbon dioxide; Air pollution; Energy balance; Simulation models

25 **NAL Call No: HD1407.C6**
Biocarbon: a model of energy use, forestation, and climate change.
Drennen, T.; Chapman, D.
Ithaca, N.Y. : The Station; 1989 Apr.
Cornell agricultural economics staff paper - Department of Agricultural Economics, Cornell University Agricultural Experiment Station (89-9): 37 p.; 1989 Apr. Includes references.

Language: English

Descriptors: Dendroclimatology; Environmental temperature; Carbon dioxide; Climatic change; Mathematical models

26 **NAL Call No: 100 SO82S**
Bioclimate: things could get worse.
Brookings, S.D. : The Station; 1989 Mar.
South Dakota farm & home research - South

Dakota, Agricultural Experiment Station v. 40 (1): p. 3-6. maps; 1989 Mar.

Language: English

Descriptors: South Dakota; Climatic change; History; Projections; Drought; Wind erosion

27 **NAL Call No: aQK751.U7 1988**
Biological diversity and global change: habit fragmentation and extinction.
Schonewald-Cox, C.; Stohlgren, T.J.
Broomall, PA : Northeastern Forest Experiment Station, [1989?]; 1989 Sep.
Air pollution effects on vegetation, including forest ecosystems : proceedings of the Second US-USSR Symposium / edited by Reginald D. Noble, Juri L. Martin, and Keith F. Jensen. p. 217-224; 1989 Sep. Papers presented at an International Conference, September 13-25, 1988, at Corvallis, Oregon; Raleigh, North Carolina; Gatlinburg, Tennessee. Includes references.

Language: English

Descriptors: U.S.A.; U.S.S.R.; Habitat destruction; Air pollution; Climatic change; Fragmentation

28 **NAL Call No: QH345.B564**
Biomass of the North American boreal forest: a step toward accurate global measures.
Botkin, D.B.; Simpson, L.G.
Dordrecht : Kluwer Academic Publishers; 1990 Mar.
Biogeochemistry v. 9 (2): p. 161-174. maps; 1990 Mar. Includes references.

Language: English

Descriptors: U.S.A.; Boreal forests; Aerial photography; Biomass production; Carbon cycle; Carbon dioxide; Climatic change; Environmental factors; Mapping

29 **NAL Call No: 470 SCI2**
Boreal forests and the global carbon cycle.
Kauppi, P.; Posch, M.
Washington, D.C. : American Association for the Advancement of Science; 1989 Mar24.
Science v. 243 (4898): p. 1535-1536; 1989 Mar24. Includes references.

Language: English

Descriptors: Forest influences; Boreal forests; Carbon cycle; Climatic change

30 **NAL Call No: QC981.4.B72**
The Breathing planet.
Gribbin, John R.
Oxford [Oxfordshire] ; New York, NY, USA : B. Blackwell ; [London] : New Scientist, 1986 (1987 printing); Reprinted 1986.
xv, 336 p. : ill., maps, ports. ; 24 cm. (New scientist guides). Reprints of articles originally published in New scientist. Includes index.

Language: English

Descriptors: Weather; Climatic changes; Atmospheric chemistry; Environmental aspects; Man; Influence on nature

31 **NAL Call No: QC981.8.C5W68 1989**
Cairo compact and panel reports.
Climate Institute (Washington, D.C.),United Nations Environment Programme, Egypt
World Conference on Preparing for Climate Change 1989 : Cairo, Egypt.
Washington, D.C. : Climate Institute, [1989?]; 1989.
34 p. ; 28 cm. Cover title. At head of title: Cairo climate conference December 17-21, 1989, convened by Climate Institute, United Nations Environment Programme, Government of Egypt. "World Conference on Preparing for Climate Change ... Cairo, Egypt, December 17-21, 1989", P. [i].

Language: English

Descriptors: Climatic changes

32 **NAL Call No: QC912.3.S4**
Can we delay a greenhouse warming? the effectiveness and feasibility of options to slow a build-up of carbon dioxide in the atmosphere.
Seidel, Stephen; Keyes, Dale L.
United States, Environmental Protection Agency, Office of Policy and Resources Management, Strategic Studies Staff
Washington, D.C. : Strategic Studies Staff, Office of Policy Analysis, Office of Policy and Resources Management : For sale by the Supt. of Docs., U.S. G.P.O.; 1983.
1 v. (various pagings) : ill., 1 map ; 28 cm. September 1983. S/N 055-000-00235-5. Bibliography: p. [189-193].

Language: English

Descriptors: Greenhouse effect, Atmospheric; Atmospheric carbon dioxide; Environmental aspects; Fossil fuels; Environmental aspects

33 NAL Call No: 517 OT81
Canada's peatlands: their importance for the global carbon cycle and possible effects of "greenhouse" climatic warming.
Gorham, E.
Ottawa : The Society; 1988.
Transactions of the Royal Society of Canada; Memoires de la Societe royale du Canada v. 3: p. 21-23; 1988. Includes references.

Language: English

Descriptors: Canada; Climatic change; Carbon dioxide; Peatlands; Soil resources

34 NAL Call No: QK710.P55
Canopy photosynthesis of crops and native plant communities exposed to long-term elevated CO2.
Drake, B.G.; Leadley, P.W.
Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 853-860; 1991 Oct. Literature review. Includes references.

Language: English

Descriptors: Crops; Spartina patens; Scirpus; Carbon dioxide enrichment; Photosynthesis; Carbon dioxide; Gas exchange; Canopy; Salt marshes; Plant communities; Air temperature; Literature reviews

35 NAL Call No: S600.7.C54C355
Carbon dioxide and climate change impacts on agriculture. (CO2 and climate change.)
Salinger, M. J.
Palmerston North, N.Z. : DSIR ; [Wellington, N.Z.] : New Zealand Meteorological Service ; [Lincoln, N.Z.] : MAF, [1990?]; 1990.
28 p. : ill. ; 30 cm. Cover title. Caption title: CO2 and climate change. Includes bibliographical references (p. 28).

Language: English

Descriptors: Atmospheric carbon dioxide; Crops and climate; Meteorology, Agricultural

36 NAL Call No: QC879.8.C35 1984
Carbon dioxide and climate summaries of research in FY 1983 and FY 1984.
United States, Dept. of Energy
Washington, D.C. : United States Department of Energy; 1984.
v, 131 p. : ill. ; 28 cm. DOE/ER-0202. September 1984. Includes index.

Language: English

Descriptors: United States, Climate; Atmospheric carbon dioxide, Research, United States

37 NAL Call No: QC879.8.C35
Carbon dioxide and climate summaries of research in FY 1987.
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, D.C. : U.S. Dept. of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division; 1987.
vii, 95 p. : ill. ; 28 cm. DOE/ER-0347. October 1987. Includes index.

Language: English

Descriptors: United States, Climate; Atmospheric carbon dioxide, Research, United States

38 NAL Call No: QC879.8.C35 1988
Carbon dioxide and climate summaries of research in FY 1988.
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, D.C. : U.S. Dept. of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division; 1988.
xiv, 87 p. : ill. ; 28 cm. (DOE/ER ; 0385). October 1988. Includes index.

Language: English

Descriptors: United States; Climate; Atmospheric carbon dioxide; Research; United States

39 NAL Call No: QH543.13
Carbon dioxide and global change earth in transition.
Idso, Sherwood B.
Tempe, Ariz, U.S.A. (631 E. Laguna Dr., Tempe 85282) : IBR Press; 1989.
iii, 292 p. : ill. ; 23 cm. Includes bibliographical references (p. 136-235) and indexes.

Language: English

Descriptors: Bioclimatology; Carbon dioxide; Physiological effect; Global warming; Health aspects

40 NAL Call No: T57.6.A115 no.88-7
Carbon dioxide emissions in a methane economy.
Ausubel, Jesse
Laxenburg, Austria : International Institute for Applied Systems Analysis, [c1988]; 1988, reprinted 1988.

p. iii, 245-263 : ill. ; 24 cm. (Research reports / International Institute for Applied Systems Analysis ; 88-7). December 1988. Reprinted from Climatic Change, 12 (1988), 245-263. Includes bibliographical references.

Language: English

41 NAL Call No: S541.5.A4M57
Carbon dioxide in context.
Meeker, J.W.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 187-189; 1984 Mar.

Language: English

Descriptors: Carbon dioxide; Climatic change; Fossil fuels; Resource management

42 NAL Call No: S541.5.A4M57
Carbon dioxide in the Arctic atmosphere: air-sea and air-land interaction.
Kelley, J.J.; Gosink, T.A.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 40-48. ill., maps; 1984 Mar. Includes references.

Language: English

Descriptors: Carbon dioxide; Arctic regions; Oceanography; Seasonal variation; Air-water interface; Climatic change; Arctic tundra

43 NAL Call No: QK1.C83
Carbon dioxide levels in the biosphere: effects on plant productivity.
Wittwer, S.H.
Boca Raton, Fla. : CRC Press; 1985.
Critical reviews in plant sciences v. 2 (3): p. 171-198; 1985. Literature review. Includes 207 references.

Language: English

Descriptors: Plant physiology; Environmental factors; Carbon dioxide; Atmosphere; Climatic factors

44 NAL Call No: QC879.8.J37
Carbon dioxide potential emerging global hazard.
Jarratt, Jennifer
Washington, D.C. : JF Coates, Inc., c1983?; 1983.
ii, 43 leaves : ill. ; 28 cm. "The Environmental Program of the Edison Electric Institute sponsored this stock-taking study of the carbon dioxide question", P.i. December 28, 1983. Includes bibliographical references (leaves 41-42).

Language: English

Descriptors: Greenhouse effect, Atmospheric; Climatic changes; Atmospheric carbon dioxide; Environmental aspects

45 NAL Call No: S541.5.A4M57
The carbon dioxide problem: a scientific puzzle and political dilemma.
Woodwell, G.M.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 3-7; 1984 Mar. Includes references.

Language: English

Descriptors: Carbon dioxide; Climatic change; Natural resources; Carbon cycle; Resource management

46 NAL Call No: QC879.8.C36
Carbon dioxide research progress report fiscal year 1979.
Dahlman, Roger C.
United States, Department of Energy
Washington, D.C. : U.S. Dept. of Energy ; Springfield, Va. : Available from National Technical Information Service; 1980.
79 p. : ill., maps ; 28 cm. (Carbon Dioxide Effects Research and Assessment Program (Series) ; no. 005.). Apr 1980. DOE/EV-0071. UC-11. Bibliography: p. 77-79.

Language: English

Descriptors: Atmospheric carbon dioxide; Carbon dioxide

47 NAL Call No: QK477.2.A6I5 1986
Carbon-13/carbon-12 variations in bristlecone pine over the past 600 years and their relation to climate and global atmosphereic CO2.
Long, A.; Leavitt, S.W.; Cheng, S.
Washington, DC : U.S. Department of Energy, Office of Energy Research; 1987 Apr.
Proceedings of the International Symposium on Ecological Aspects of Tree-Ring Analysis / compiled by G.C. Jacoby, J.W. Hornbeck. p. 485-493; 1987 Apr. Includes references.

Language: English

Descriptors: California; Pinus longaeva; Carbon dioxide enrichment; Growth; Climatic factors; Growth rings; Altitudinal zonation

48 NAL Call No: QC981.8.G56C4
The Challenge of global warming.
Abrahamson, Dean E.
Washington, D.C. : Island Press; 1989.
xviii, 358 p. : ill. ; 24 cm. Includes index. Bibliography: p. 327-336.

Language: English

Descriptors: Global warming; Climatic changes; Greenhouse effect, Atmospheric

49 NAL Call No: 470 C16C
Changes in forest fire frequency in Kootenay National Park, Canadian Rockies.
Masters, A.M.
Ottawa, Ont. : National Research Council of Canada; 1990 Aug.
Canadian journal of botany; Journal canadien de botanique v. 68 (8): p. 1763-1767. maps; 1990 Aug. Includes references.

Language: English

Descriptors: British Columbia; Forest fires; Frequency; Stand characteristics; Age composition; Spatial distribution; Climatic change; Environmental impact; Road construction; Rain; Climatic change; Fire suppression; Age of trees; National parks; Fire effects; Fire ecology

50 NAL Call No: 450 J8224
Changes in N and S leaf content, stomatal density and specific leaf area of 14 plant species during the last three centuries of CO2 increase.
Penuelas, J.; Matamala, R.
Oxford : Oxford University Press; 1990 Sep.
Journal of experimental botany v. 230 (41): p. 1119-1124; 1990 Sep. Includes references.

Language: English

Descriptors: Spain; Angiosperms; Gymnosperms; Herbaria; Specimens; Leaves; Chemical composition; Carbon; Sulfur; Nitrogen content; Leaf area; Stomata; Enumeration; Carbon dioxide enrichment; Atmosphere; Climatology; History

Abstract: Parallel to the increase in atmospheric CO2 from 278 micromole mol-1 in AD 1750 to the current ambient level of 348 micromole mol-1, there have been overall decreases in leaf nitrogen content and stomatal density from 144% and 121%, respectively, in AD 1750 to 100% today of herbarium specimens of 14 trees, shrubs, and herbs collected over the last 240 years in Catalonia, a Mediterranean climate area. These decreases were steeper during the initial slower increases in CO2 atmospheric levels as compared with the relatively faster CO2 increases in recent years. The declines in leaf N content and stomatal density have also been reported in experimental studies on leaves of plants grown under enriched CO2 environments. Meanwhile, the stomatal index and overall carbon and sulphur leaf contents have not changed significantly. Leaf S content was higher in the 1940s samples coinciding with the burning of increased quantities of sulphur-rich coal. Consequently, the epidermal cell density has decreased parallel to the stomatal density and the C/N ratio of leaves has increased, implying possible important consequences on herbivores, decomposers, and ecosystems. An overall decrease in the specific leaf area (SLA) from 184% in the 18th century to 100% today has also been found, as would be expected under CO2 enrichment, but which might also be an artifact of prolonged storage.

51 NAL Call No: jQC981.8.C5F33 1986
Changes in the wind earth's shifting climate., 1st ed.
Facklam, Margery; Facklam, Howard
San Diego : Harcourt Brace Jovanovich; 1986.
xiii, 128 p. : ill. ; 24 cm. Includes index. Bibliography: p. 121-124.

Language: English

Descriptors: Climatic changes; Juvenile literature

52 NAL Call No: QC912.3.C481
Changing by degrees steps to reduce greenhouse gases. (Steps to reduce greenhouse gases.)
United States, Congress, Office of Technology Assessment
Washington, DC : Congress of the U.S., Office of Technology Assessment : For sale by the Supt. of Docs., U.S. G.P.O.; 1991; Y 3.T 22/2:2 D 36/3.
x, 354 p. : ill., maps ; 26 cm. "February 1991", P. [4] of cover. Includes index. "OTA-O-482", P. [4] of cover. Includes bibliographical references.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global warming; Climatic changes; Environmental policy

53 NAL Call No: QC912.3.C48
Changing by degrees steps to reduce greenhouse gases : summary. (Steps to reduce greenhouse gases.)
United States, Congress, Office of Technology Assessment
Washington, DC": Congress of the U.S., Office of Technology Assessment : For sale by the Supt. of Docs., U.S. G.P.O.; 1991.
viii, 42 p. : ill., maps ; 26 cm. "February 1991", P. [4] of cover. "OTA-O-483", P. [4] of cover. Includes bibliographical references (p. 41-42).

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global warming; Climatic changes; Environmental policy

54 NAL Call No: SD143.S64
A changing climate and its implications for predicting future yields.
Henderson, J.A.
Bethesda, Md. : The Society; 1990.
Proceedings of the ... Society of American Foresters National Convention. p. 343-346; 1990. Paper presented at a meeting on "Forestry on the Frontier," Sept 24-27, 1989, Spokane, Washington. Includes references.

Language: English

Descriptors: Forest management; Climatic change; Yields; Height; Growth

55 NAL Call No: QH543.P76
Changing climate, changing biomass and changing atmospheric CO2.
Grove, A.T.
Lisse : Swets & Zeitlinger; 1984.
Progress in biometeorology v. 3: p. 5-10; 1984. Paper presented at the "Symposium on Interactions between Climate and Biosphere," March 21-23, 1983, Osnabruck, West Germany. Includes references.

Language: English

Descriptors: Atmosphere; Carbon dioxide; Concentration; Climatic factors; Biological production

56 NAL Call No: QC879.8.N35
Changing climate report of the Carbon Dioxide Assessment Committee.
National Research Council (U.S.). Carbon Dioxide Assessment Committee
Washington, D.C. : National Academy Press; 1983.
xxiii, 496 p. : ill., maps ; 28 cm. Includes bibliographies.

Language: English

Descriptors: Atmospheric carbon dioxide, Environmental aspects, United States; Climatic changes, United States

57 NAL Call No: 450 AN7
Changing productivity of the oceans in response to a changing climate.
Fogg, G.E.
London : Academic Press; 1991 Jun.
Annals of botany v. 67 (suppl.1): p. 57-60; 1991 Jun.
Literature review. Includes references.

Language: English

Descriptors: Climatic change; Oceanic climate; Biomass production; Phytotoxicity; Carbon dioxide; Nitrogen; Temperature; Pollution; Literature reviews

Abstract: The probable effects on ocean productivity of a possible 2 degrees C rise in average sea-surface temperature accompanied by a 30 cm rise in mean sea-level over the next 30 years are considered. It seems unlikely that there will be any perceptible change in total primary productivity and changes in secondary productivity seem unpredictable. It is thought unlikely that changes in the nitrogen cycle will be sufficient to affect total biomass over this short time-scale. A 2 degrees C change is, however, likely to bring about considerable alterations in the composition of marine communities, and shifting patterns of water movement will bring about changes in the spatial distribution of biomass, communities and productivity. We may expect changes in traditional fishing grounds and marked changes in flora and fauna in British waters, but probably no increase or decrease in general productivity.

58 NAL Call No: QC879.8.C42
Characterization of information requirements for studies of CO2 effects water resources, agriculture, fisheries, forests, and human health.
White, Margaret R.
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, D.C. : U.S. Dept. of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division; 1986.
xix, 235 p. : ill. ; 28 cm. December 1985. DOE/ER-0236. Includes bibliographies and indexes.

Language: English

Descriptors: Carbon dioxide; Environmental aspects; Atmospheric carbon dioxide; Environmental aspects; Climatic changes

59 NAL Call No: QH540.E55
Chlorofluorocarbons and the Antarctic ozone 'hole'.
Rowland, F.S.
Geneva : Elsevier Sequoia S.A.; 1986.
Environmental conservation v. 13 (3): p. 193-194; 1986. Includes references.

Language: English

Descriptors: Antarctica; Ozone; Organochlorine compounds; Air pollution; Climatic change

60 NAL Call No: NBUQC981.8 C5 C55 1990
Climate and development climate change and variability and the resulting social, economic and technological implications.
Karpe, H.-J; Otten, Dieter; Trinidade, S. C.
Hamburg Congress on Climate and Development 1988 : Hamburg, Germany.
Berlin ; New York : Springer-Verlag; 1990.
xiv, 477 p. : ill., maps ; 24 cm. "A succinct cross-section of the varying perceptions drawn from the analytical presentations by the unique composition of participants at the Hamburg Congress [on Climate and Development]", pref. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Congresses; Economic development; Congresses; Man; Influence of climate; Congresses

61 NAL Call No: QC879.8.C58
Climate and energy the feasibility of controlling CO2 emissions.
Okken, P. A.; Swart, R. J.; Zwerver, S.
Dordrecht ; Boston : Kluwer Academic Publishers; 1989.
vii, 267 p. : ill. ; 25 cm. Includes bibliographical references.

Language: English

Descriptors: Atmospheric carbon dioxide; Greenhouse effect, Atmospheric; Fossil fuels

62 NAL Call No: S600.2.I58 1987
Climate and food security papers persented at the International Symposium on Climate Variability and Food Security in Developing Countries, 5-9 February 1987 New Delhi, India.
American Association for the Advancement of Science, Indian National Science Academy, International Rice Research Institute, Indian Council of Agricultural Research
International Symposium on Climate Variability and Food Security in Developing Countries 1987 : New Delhi, India.
Manila, Philippines : The Institute ; Washington, D.C. : The Association; 1989.
602 p. : ill., maps ; 23 cm. "CGIAR Information Service. Includes bibliographical references.

Language: English

Descriptors: Crops and climate; Climatic changes

63 NAL Call No: 101 AL1A
Climate change.
Ascher, A.
Edmonton : Faculty of Agriculture and Forestry, University of Alberta; 1990.
Agriculture and forestry bulletin v. 13 (4): p. 3-8. ill; 1990.

Language: English

Descriptors: Canada; Climatic change; Effects; Forestry

64 NAL Call No: KF27.A33277 1989b
Climate change and agriculture joint hearing before the Subcommittee on Department Operations, Research, and Foreign Agriculture and the Subcommittee on Forests, Family Farms, and Energy of the Committee on Agriculture, House of Representatives, One Hundred First Congress, first session, April 19, 1989.
United States. Congress. House. Committee on Agriculture. Subcommittee on Department Operations, Research, and Foreign Agriculture; United States, Congress, House, Committee on Agriculture, Subcommittee on Forests, Family Farms, and Energy
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1990; Y 4.Ag 8/1:101-28.
iii, 150 p. : ill. ; 24 cm. Distributed to some depository libraries in microfiche. Serial no. 101-28. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Crops and climate; Meteorology, Agricultural; United States

65 NAL Call No: aSD11.A42 no.187
Climate change and America's forests.
Joyce, Linda A.; Fosberg, Michael A.; Comanor, Joan M.
Rocky Mountain Forest and Range Experiment Station (Fort Collins, Colo.)
Fort Collins, Colo. : U.S. Dept. of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station; 1990.
12 p. : ill., maps ; 28 cm. (General technical report RM ; 187). February 1990. Includes bibliographical references (p. 9-12).

Language: English

Descriptors: Forests and forestry; United States; Mensuration; Climatic factors; Greenhouse effect, Atomospheric; United States

66 NAL Call No: QK475.T74
Climate change and forests.
Gates, D.M.
Victoria, B.C. : Heron Publishing; 1990 Dec.
Tree physiology v. 7 (1/4): p. 1-5; 1990 Dec. Paper presented at the "Workshop on Dynamics of Ecophysiological Processes in Tree Crowns and Forest Canopies," September, 1991, Rhinelander, Wisconsin. Includes references.

Language: English

Descriptors: Forest ecology; Climatic change; Temperature; Air pollution; Carbon dioxide

Abstract: Factors governing long-term change in global temperature are reviewed. The magnitude and rate of change in global temperature resulting from current increases in the concentration of atmospheric greenhouse gases are considered in relation to their impact on forests. Movement in forest zone boundaries at a rate of 2.5 km year-1 are possible, which is nearly ten time the rate forests have been known to move by natural reproduction. Climate models indicate that increased global temperature will affect rainfall distribution, lead to more frequent and more severe storms and increase climatic variability. Consequences for the world's forests include increased frequencies of fire and blow-down, and widespread decline. Increased atmospheric CO2 concentrations may increase forest growth where the effect is not offset by reduced precipitation, but the overall effect of anticipated changes in global climate is likely to be widespread loss of forests.

67 NAL Call No: 450 AN7
Climate change and productivity of natural grasslands.
Hall, D.O.; Scurlock, J.M.O.
London : Academic Press; 1991 Jun.
Annals of botany v. 67 (suppl.1): p. 49-55; 1991 Jun. Literature review. Includes references.

Language: English

Descriptors: Climatic change; Tropical grasslands; Biomass production; Plant communities; Plant ecology; Ecosystems; Burning; Carbon dioxide; Nitrogen; Environmental factors; Temperature; Water stress; Nutrient requirements; Literature reviews

Abstract: Natural grasslands, especially in the tropics, urgently need more detailed study in order to determine the response of this undervalued major ecosystem type to possible climate changes. Feedback effects through environmental variables such as temperature, water and nutrient stress may be at least as significant as the increase in atmospheric CO2 concentration. but there is scarcely enough data at present to develop and validate modelling. Annual burning of large areas of tropical grasslands plays a significant role in the global carbon cycle. Net loss of soil carbon and nitrogen may result, depending upon the frequency of fire, overgrazing and drought. The UNEP Project on productivity and photosynthesis in tropical grasslands attempts to correct the gap in baseline data, and has found these ecosystems to be far more productive than previously appreciated. Based on data from three terrestrial grassland sites, the gross flux of carbon from burning of tropical grasslands falls in the range 2-4 4-2 Gt per annum, a significant amount compared with the net fluxes of 1-8 Gt estimated from deforestation and 9-3 Gt from fossil combustion. Data from this project is also being applied to modelling work in collaboration with SCOPE. In order to study climate change effects on carbon cycling in grasslands.

68 NAL Call No: Q11.J68
Climate change and the potential impact on the soil resource.
Hatfield, J.L.
Cedar Falls, Iowa : The Academy; 1990 Sep.
The Journal of the Iowa Academy of Science : JIAS v. 97 (3): p. 82-83; 1990 Sep. Includes references.

Language: English

Descriptors: Air temperature; Climatic change; En-

vironmental impact reporting; Soil management; Soil resources; Soil temperature; Soil water

69 **NAL Call No: QC981.8.C5C5**
Climate change and U.S. water resources. (Climate change and US water resources.)
Waggoner, Paul E.
American Association for the Advancement of Science, Panel on Climatic Variability, Climate Change, and the Planning and Management of U.S. Water Resources
New York : Wiley; 1990.
xiii, 496 p. : ill. ; 25 cm. (Wiley series in climate and the biosphere). A Wiley-Interscience publication. Report of the American Association for the Advancement of Science Panel on Climatic Variability, Climate Change, and the Planning and Management of U.S. Water Resources. Includes bibliographical references and index.

Language: English

Descriptors: Climatic changes; United States; Water-supply; United States

70 **NAL Call No: SD13.C35**
Climate change and wildfire in Canada.
Flannigan, M.D.; Van Wagner, C.E.
Ottawa, Ont. : National Research Council of Canada; 1991 Jan.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 21 (1): p. 66-72. maps; 1991 Jan. Includes references.

Language: English

Descriptors: Canada; Wildfires; Climatic change; Carbon dioxide; Temperature; Models

71 **NAL Call No: S600.7.C54P37**
Climate change and world agriculture.
Parry, M. L.
London : Earthscan Publications Limited in association with The International Institute for Applied Systems Analysis [and] United Nations Environment Programme; 1990.
xv, 157 p. : ill., maps ; 23 cm. Includes bibliographical references (p. [135]-149) and index.

Language: English

Descriptors: Agriculture; Climatic changes

72 **NAL Call No: S600.7.C54M3**
Climate change and world food production.
McQuigg, James D.
Gainesville, Fla? : University of Florida?, 1975?; 1975.
13, [17] leaves : ill. ; 28 cm. Cover title. An address to the University of Florida Frontiers of Science Series, Gainesville, Florida, 23 April 1975. Bibliography: leaf [14].

Language: English

Descriptors: Crops and climate; Agricultural productivity; Food supply

73 **NAL Call No: aHD1751.A42**
Climate change could cause shifts in production.
Reilly, J.; Tobey, J.
Rockville, Md. : The Service; 1991 May.
Agricultural outlook AO - U.S. Department of Agriculture, Economic Research Service (174): p. 30-34; 1991 May.

Language: English

Descriptors: Climatic change; Economic impact; Yields; Agricultural production; Carbon dioxide

74 **NAL Call No: NBUQC981.8 G56 C54 1991**
Climate change evaluating the socio-economic impacts.
Organisation for Economic Co-operation and Development
Paris : Organisation for Economic Co-operation and Development; 1991.
109 p. : ill. ; 23 cm. Includes bibliographical references.

Language: English

Descriptors: Global warming

75 **NAL Call No: QC981.8.C5I57**
Climate change the IPCC scientific a ssessment.
Houghton, John Theodore; Jenkins, G. J.; Ephraums, J. J.
Intergovernmental Panel on Climate Change; Intergovernmental Panel on Climate Change, Working Group 1
Cambridge ; New York : Cambridge University Press; 1990.
xxxix, 364 p. : ill. (some col.), maps ; 31 cm. "Report prepared for IPCC by Working Group 1", 7th prelim. p. Published for the Intergovernmental Panel on Climate Change. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Greenhouse gases; Greenhouse effect, Atmospheric

76 **NAL Call No: 281.8 C16**
Climate change, factors and forecasts.
Wilson, W.R.
Ottawa : Canadian Agricultural Economics and Farm Management Society; 1990 Dec.
Canadian journal of agricultural economics; Revue Canadienne d'economie rurale v. 38 (4,pt.1): p. 667-683; 1990 Dec. Paper presented at a Workshop, July 23-25, 1990, Penticton, British Columbia. Includes references.

Language: English

Descriptors: Climatic change; Air pollution; Trends; Gases

77 **NAL Call No: NBUQC981.8.C5C541 1987**
Climate crisis the societal impacts associated with the 1982-83 worldwide climate anomalies. (Impact, climate crisis Lugano report The Societal impacts associated with the 1982-83 worldwide climate anomalies.)
Glantz, Michael H.; Katz, Richard W.; Krenz, Maria
National Center for Atmospheric Research (U.S.), Environmental and Societal Impacts Group, United Nations Environment Programme
Boulder, Colo. : Environmental and Societal Impacts Group, National Center for Atmospheric Research ; New York, N.Y. : Obstainable from United Nations Publications; 1987.
105 p. : col. ill., col. maps ; 28 cm. Cover title: Impact, climate crisis. Running title: Lugano report. Report based on the Workshop on the Economic and Societal ImpactsAssociated with the 1982-83 Worldwide Climate Anomalies, 11-13 November 1985, Lugano, Switzerland. Includes bibliographical references.

Language: English

Descriptors: Climatic changes, Social aspects; Climatology, Social aspects; Climatic extremes, Social aspects; Environmental impact analysis, Social aspects

78 **NAL Call No: QC981.8.C5C48**
The Climate of Europe past, present and future : natural and man-induced climate changes : a European perspective.
Flohn, Hermann; Fantechi, Roberto
Commission of the European Communities
Dordrecht ; Boston : Reidel; 1984.
x, 356 p. : ill., maps ; 25 cm. (Atmospheric sciences library). At head of title: Commission of the European Communities. Includes bibliographical references (p. 315-350) and index.

Language: English

Descriptors: Climatic changes; Europe

79 **NAL Call No: QC981.8.C5K65**
Climate shocks natural and anthropogenic.
Kondrat
New York : Wiley; 1988.
xviii, 296 p. : ill. ; 24 cm. (Wiley series in climate and the biosphere). A Wiley-Interscience publication. Includes bibliographical references and index.

Language: English; Russian

Descriptors: Climatic changes; Greenhouse effect, Atmospheric; Volcanoes; Nuclear explosions

80 **NAL Call No: KF27.C697 1989**
Climate surprises hearing before the Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation, United States Senate, One Hundred First Congress, first session, on possible climate surprises, predicting greenhouse warning [i.e. warming], May 8, 1989.
United States. Congress. Senate. Committee on Commerce, Science, and Transportation. Subcommittee on Science, Technology, and Space
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.C 73/7:S.hrg.101-128.
iii, 152 p. : ill. ; 24 cm. (S. hrg. ; 101-128). Distributed to some depository libraries in microfiche. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Greenhouse effect, Atmospheric; Global warming; Environmental protection; United States

81 **NAL Call No: GB395.A73**
Climate, tree-ring, and glacial fluctuations in the Rio Frias Valley, Rio Negro, Argentina.
Villalba, R.; Leiva, J.C.; Rubulls, S.; Suarez, J.; Lenzano, L.
Boulder, Colo. : Institute of Arctic and Alpine Research, University of Colorado; 1990 Aug.
Arctic and alpine research v. 22 (3): p. 215-232. ill., maps; 1990 Aug. Includes references.

Language: English

Descriptors: Argentina; Climatic change; Moraine soils; Glacial soils; Date; Dendrochronology;

Growth rings; Width; Historical records

82 NAL Call No: Q11.J68
Climate trends in Iowa.
Carlson, R.E.
Cedar Falls, Iowa : The Academy; 1990 Sep.
The Journal of the Iowa Academy of Science : JIAS v. 97 (3): p. 77-81; 1990 Sep. Includes references.

Language: English

Descriptors: Iowa; Agroclimatology; Air temperature; Climatic change; Heat stress; Trends; Weather data

83 NAL Call No: aSD433.A53 no.65
Climate variability and ecosystem response proceedings of a long-term ecological research workshop, Niwot Ridge/Green Lakes Valley LTER site, Mountain Research Station, University of Colorado, Boulder, Colorado, August 21-23, 1988.
Greenland, David,1940-; Swift, Lloyd Wesley,
Southeastern Forest Experiment Station (Asheville, N.C.)
Asheville, N.C. : U.S. Dept. of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1990; A 13.88:SE-65.
iv, 90 p. : ill., maps ; 28 cm. (General technical report SE ; 65). "October 1990", P. [2] of cover. Includes bibliographical references.

Language: English

Descriptors: Bioclimatology; Ecology; Climatic changes

84 NAL Call No: GB395.A73
Climate variations in northern North America (6000 BP to present) reconstructed from pollen and tree-ring data.
Diaz, H.F.; Andrews, J.T.; Short, S.K.
Boulder, Colo. : Institute of Arctic and Alpine Research, University of Colorado; 1989 Feb.
Arctic and alpine research v. 21 (1): p. 45-59. maps; 1989 Feb. Includes references.

Language: English

Descriptors: Alaska; Canada; Greenland; Pollen analysis; Growth rings; Climatic change; Temperatures; Precipitation; Summer

85 NAL Call No: S600.7.G56C57 1989
Climate warming and Canada's comparative position in agriculture a summary of Land Evaluation Group report, Implications of climatic warming for Canada's comparative position in agricultural production and trade (publication no. LEG-27). (Rechauffement climatique et position relative du Canada en agriculture.)
Smit, Barry
University of Guelph, Land Evaluation Group, Canada, Atmospheric Environment Service
Ottawa : Environment Canada; 1989.
9, 10 p. ; 28 cm. (Climate change digest, CCD 89-01). Title on added t.p.: Rechauffement climatique et position relative du Canada en agriculture. English and French.

Language: English; French

Descriptors: Global warming; Crops and climate; Crops and climate

86 NAL Call No: QC994.8.C6 no.44
The Climates of the long-term ecological research sites.
Greenland, David,
National Science Foundation (U.S.), Division of Biotic Systems and Resources, University of Colorado, Boulder, Institute of Arctic and Alpine Research
Boulder, Colo. : Institute of Arctic and Alpine Research, University of Colorado; 1987.
81 p. : ill. ; 28 cm. (Occasional paper / University of Colorado Institute of Arctic and Alpine Research, 44). Funded by the National Science Foundation, Division of Biotic Systems and Resources. Bibliography: p. 74.

Language: English

Descriptors: Bioclimatology, United States; Ecology, United States; Climatic changes, United States

87 NAL Call No: QC981.8.C5P57
Climatic catastrophes the international implications of the greenhouse effect and nuclear winter.
Pittock, A. Barrie,
Australian National University, Peace Research Centre
Canberra : Australian National University, Research School of Pacific Studies; 1987.
27 p. ; 30 cm. (Working paper (Australian National University. Peace Research Centre) ; no. 20.). July 1987. This paper is an edited and slightly updated version of one to be published in Natural and Man-Made Hazards ed. M.I. El-Sabh and T.S. Murty (Reidel Pub. Co., Dordrecht, 1987). Bibliography: p. 24-27.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Climate changes; Nuclear winter

88 NAL Call No: SD13.C35.
Climatic change: a review of causes.
Harrington, J.B.
Ottawa, Ont. : National Research Council of Canada; 1987 Nov.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 17 (11): p. 1313-1339. ill., maps, , plates; 1987 Nov. Literature review. Includes references.

Language: English

Descriptors: North America; Forests; Geographical distribution; Climatic change; Prediction; Environmental temperature; Environmental factors; Geological processes; Carbon dioxide; Human activity

89 NAL Call No: 58.9 IN7
Climatic change and field drainage.
Armstrong, A.C.; Castle, D.A.
Silsoe : Institution of Agricultural Engineers; 1989.
The Agricultural engineer v. 44 (4): p. 126-127. ill; 1989. Includes references.

Language: English

Descriptors: Uk; Climatic change; Drainage; Soil water; Water management; Flood control

90 NAL Call No: 470 SCI2
Climatic change and forests.
Binkley, C.S.
Washington, D.C. : American Association for the Advancement of Science; 1989 Feb24.
Science v. 243 (4894): p. 991; 1989 Feb24. Includes references.

Language: English

Descriptors: Finland; Forests; Climatic change; Carbon dioxide; Growth rate

91 NAL Call No: QC980.C55
Climatic change and grain corn yields in the North American Great Plains.
Liverman, D.M.; Terjung, W.H.; Hayes, J.T.; Mearns, L.O.
Dordrecht : D. Reidel Pub. Co; 1986 Dec.
Climatic change v. 9 (3): p. 327-347; 1986 Dec. Includes references.

Language: English

Descriptors: U.S.A.; Zea mays; Crop yield; Mathematical models; Irrigation requirements; Climatic change; Water use; Efficiency; Climatic factors; Environmental factors; Evapotranspiration; Carbon dioxide; Plains

92 NAL Call No: QL750.O3
Climatic change and its ecological implications at a subantarctic island.
Smith, V.R.; Steenkamp, M.
Berlin, W. Ger. : Springer International; 1990.
Oecologia v. 85 (1): p. 14-24. ill; 1990. Includes references.

Language: English

Descriptors: Antarctica; Plant ecology; Mice; Climatic change; Cycling; Islands

93 NAL Call No: 10 OU8
Climatic change and its implications for agriculture.
Parry, M.L.; Porter, J.H.; Carter, T.R.
Oxon : C.A.B. International; 1990.
Outlook on agriculture v. 19 (1): p. 9-15. maps; 1990. Includes references.

Language: English

Descriptors: Agricultural production; Climatic change; Air pollution; Air temperature; Carbon dioxide; Crop yield; Growth period; Methane; Nitrous oxide; Weather

94 NAL Call No: SB123.3.C57
Climatic change and plant genetic resources.
Jackson, M. T.1948-; Ford-Lloyd, Brian; Parry, M. L.
London ; New York : Belhaven Press; 1990.
xii, 190 p. : ill. ; 24 cm.

Language: English

Descriptors: Crops; Germplasm resources; Crops and climate; Climatic changes; Germplasm resources, Plant; Vegetation and climate

95 NAL Call No: TC423.W33
Climatic change and streamflow in the Southwest.
Osborn, H.B.; Lane, L.J.
New York : American Society of Civil Engineers; 1984.
Water today and tomorrow : proc. of Specialty Conf. sponsored by Irrigation and Drainage Div. of Am. Soc. Civil Engineers, Flatstaff, Az., July 24-26, 1984 / John A. Replogle and Kenneth G.

Renard, Editors. p. 362-371. maps; 1984. Includes references.

Language: English

Descriptors: Weather patterns; Stream flow; Rain; Flood control

96 **NAL Call No: GB611.P7**
Climatic change, hydrology, and water management in arid lands.
Dracup, J.A.
Totowa, N.J. : Rowman & Littlefield; 1987.
Progress in desert research / edited by Louis Berkofsky and Morton G. Wurtele. p. 217-225; 1987. Includes references.

Language: English

Descriptors: Arid lands; Climatic change; Hydrological factors; Water resource management; Planning

97 **NAL Call No: 281.8 C16**
Climatic change impacts on forestry: economic issues.
Van Kooten,
Ottawa : Canadian Agricultural Economics and Farm Management Society; 1990 Dec.
Canadian journal of agricultural economics; Revue Canadienne d'economie rurale v. 38 (4,pt.1): p. 701-710; 1990 Dec. Paper presented at a Workshop, July 23-25, 1990, Penticton, British Columbia. Includes references.

Language: English

Descriptors: Canada; Timbers; Forests; Productivity; Climatic change; Cost benefit analysis; Welfare economics; Economic impact

98 **NAL Call No: QE597.W4**
Climatic change impacts on wind erosion in Saskatchewan, Canada.
Wheaton, E. E.
Saskatchewan Research Council
Saskatoon, Saskatchewan : Saskatchewan Research Council; 1984.
iv, 27 leaves : maps ; 28 cm. (SRC technical report ; no. 153). June, 1984. SRC publication no. E-900-16-B-84. Presented to: Task Force Meeting on Climate Impacts in High-Latitude Areas, April 2 to 6, 1984, Laxenburg, Austria ; At the request of the International Institute for Applied Systems Analysis. Bibliography: leaves 25-27.

Language: English

Descriptors: Soil erosion, Saskatchewan; Wind erosion, Saskatchewan

99 **NAL Call No: 517 OT81**
Climatic change: implications for the prairies.
Stewart, R.B.
Ottawa : Royal Society of Canada; 1986.
Transactions of the Royal Society of Canada; Memoires de la Societe royale du Canada v. 1 (ser.5): p. 67-96. maps; 1986. Paper presented at the symposium "The Prairies and Canada", University of Manitoba, June 2-4, 1986. Literature review. Includes references.

Language: English

Descriptors: Saskatchewan; Canada; U.S.A.; Triticum aestivum; Spring wheat; Prairies; Climatic change; Drought; Yield forecasting; Models

100 **NAL Call No: GB451.2.B66**
Climatic change, rising sea level and the British coast.
Boorman, L. A.; Goss-Custard, J. D.; McGrorty, S.
Institute of Terrestrial Ecology
London : H.M.S.O.; 1989.
24 p. : col. ill., map ; 30 cm. (ITE research publication ; no. 1). At head of title: Natural Environment Research Council, Institute of Terrestrial Ecology. Includes bibliographical references (p. 24).

Language: English

Descriptors: Coasts; Sea level

101 **NAL Call No: 4 AM34P**
Climatic change, weather variability, and corn production.
Thompson, L.M.
Madison, Wis. : American Society of Agronomy; 1986 Jul.
Agronomy journal v. 78 (4): p. 649-653; 1986 Jul. Includes 25 references.

Language: English

Descriptors: North central states of U.S.A.; Zea mays; Climatic factors; Weather; Rain; Nitrogen fertilizers; Temperature; Technology; Trends; Carbon dioxide; Genetic factors; Models; Crop production

102 **NAL Call No: QH1.J62**
Climatic response surfaces from pollen data for some eastern North American taxa.
Bartlein, P.J.; Prentice, I.C.; Webb, T. III

Oxford : Blackwell Scientific Publications; 1986 Jan.
Journal of biogeography v. 13 (1): p. 35-57; 1986 Jan. Includes references.

Language: English

Descriptors: North America; Climatic change; Environmental factors; Plant ecology; Pollen analysis; Precipitation; Temperature

103 NAL Call No: S600.43.M3715 1990
Climatic risk in crop production models and management for the semiarid tropics and subtropics : proceedings of the International Symposium on Climatic Risk in Crop Production : models and management for the semiarid tropics and subtropics, held in Brisbane, Australia, 2-6 July, 1990.
Muchow, Russell C.; Bellamy, J. A.
International Symposium on Climatic Risk in Crop Production 1990 : Brisbane, Qld.
Wallingford, UK ; [Tucson, AZ, USA] : CAB International; 1991.
x, 548 p. : ill., maps ; 24 cm. Includes bibliographical references and index.

Language: English

Descriptors: Climatic changes; Crops and climate; Arid regions agriculture

104 NAL Call No: 500 AS73
Climatic variability and tree response within the forest-alpine tundra ecotone.
Hansen-Bristow, K.J.; Ives, J.D.; Wilson, J.P.
Washington, D.C. : The Association; 1988 Sep.
Annals of the Association of American Geographers v. 78 (3): p. 505-519. ill; 1988 Sep. Includes references.

Language: English

Descriptors: Colorado; Air temperature; Climatic change; Ecotones; Forest ecology; Forest trees; Growth rings; Treelines and timberlines; Tundra

105 NAL Call No: 292.9 AM34
Climatic variation and surface water resources in the Great Basin Region.
Flaschka, I.; Stockton, C.W.; Boggess, W.R.
Minneapolis, Minn. : American Water Resources Association; 1987 Feb.
Water resources bulletin v. 23 (1): p. 47-57. maps; 1987 Feb. Includes references.

Language: English

Descriptors: Great basin and pacific slope; Surface water; Water resources; Climatic change; Runoff water; Air pollution; Carbon dioxide; Water balance; Projections; Models

106 NAL Call No: QC980.C55
Climatic variation and trends in the boreal forest region of western Canada.
Singh, T.; Powell, J.M.
Dordrecht : D. Reidel Pub. Co; 1986 Jun.
Climatic change v. 8 (3): p. 267-278. maps; 1986 Jun. Includes references.

Language: English

Descriptors: Canada; Boreal forests; Climatic change; Trends; Temperature; Precipitation; Historical records; Plant ecology; Forests

107 NAL Call No: 410 EC7
Climatically induced change in fire frequency in the southern Canadian Rockies.
Johnson, E.A.; Larsen, C.P.S.
Tempe, Ariz. : The Society; 1991 Feb.
Ecology : a publication of the Ecological Society of America v. 72 (1): p. 194-201. maps; 1991 Feb. Includes references.

Language: English

Descriptors: Alberta; Picea engelmannii; Pinus contorta; Forest fires; Climatic change; Frequency; History; Mountain areas; Watersheds

108 NAL Call No: aQK751.U7 1988
CO2-induced climate change and forest resources.
Gr,ham, R.L.; Turner, M.G.; Dale, V.H.
Broomall, PA : Northeastern Forest Experiment Station, [1989?]; 1989 Sep.
Air pollution effects on vegetation, including forest ecosystems : proceedings of the Second US-USSR Symposium / edited by Reginald D. Noble, Juri L. Martin, and Keith F. Jensen. p. 233-241; 1989 Sep.
Papers presented at an International Conference, September 13-25, 1988, at Corvallis, Oregon; Raleigh, North Carolina; Gatlinburg, Tennessee. Includes references.

Language: English

Descriptors: Forests; Carbon dioxide; Climatic change

109 NAL Call No: QC981.8.C58S358
The coevolution of climate and life.
Schneider, Stephen Henry; Londer, Randi
San Francisco : Sierra Club Books; 1984.
xii, 563 p. : ill. ; 24 cm. Includes index. Bibliogra-

phy: p. 487-548.

Language: English

Descriptors: Climatic changes; Life (Biology)

110 NAL Call No: 100 N81 (1) no.479
College of Agriculture and Life Sciences, Global Climate Change Symposium, April 9, 1990, McKimmon Center proceedings.
Bruck, Robert I.
Raleigh, N.C. : North Carolina Agricultural Research Service, N.C. State University : order from: Dept. of Agricultural Communications, NCSU; 1990.
89 p. : ill. ; 28 cm. (Bulletin (North Carolina Agricultural Research Service) ; 479.). April 1990. Includes bibliographical references.

Language: English

111 NAL Call No: TJ810.A1S6
A comparison of ultraviolet radiation measured at an arctic and an alpine site.
Ambach, W.; Blumthaler, M.; Wendler, G.
Elmsford, N.Y. : Pergamon Press; 1991.
Solar energy v. 47 (2): p. 121-126; 1991. Includes references.

Language: English

Descriptors: Switzerland; Alaska; Ultraviolet radiation; Measurement; Solar energy; Meteorological observations; High altitude; Arctic regions; Mountain areas; Instrumentation; Models; Snow cover; Reflectance

112 NAL Call No: QC912.3.C65
A Compendium of options for government policy to encourage private sector responses to potential climate change report to the Congress of the United States : executive summary.
United States, Dept. of Energy, Assistant Secretary for Environment, Safety, and Health
Washington, DC : U.S. Dept. of Energy, Office of Environmental Analysis, Assistant Secretary for Environment, Safety and Health ; Springfield, Va. : Available from the National Technical Information Service, U.S. Dept. of Commerce; 1989.
xxiii, 94 p. ; 28 cm. October 1989. DOE/EH-0102.

Language: English

Descriptors: United States; Industries; Environmental aspects; Greenhouse effect, Atmospheric; Climatic changes

113 NAL Call No: TD885.5.C3C8
A Comprehensive plan for carbon dioxide effects research and assessment.
United States, Dept. of Energy, Carbon Dioxide and Climate Division
Washington, D.C. The Office ; Springfield, Va. : Available from National Technical Information Service, 1980-; 1980-9999.
v. : ill., maps ; 28 cm. (Carbon Dioxide Effects Research and Assessment Program (Series) ; 008, 013, etc.). "DOE/EV-0094"-pt. 1 ; "DOE/EV/10019"-v.II. UC-11. Includes bibliographies.

Language: English

Descriptors: Atmospheric carbon dioxide; Climatic changes

114 NAL Call No: 450 P5623
Computer calculation of solar ultraviolet radiation at ground level.
Bjorn, L.O.; Murphy, T.M.
Paris : Gauthier-Villars; 1985 Sep.
Physiologie vegetale v. 23 (5): p. 555-561; 1985 Sep. Includes references.

Language: English

Descriptors: Solar radiation; Ultraviolet radiation; Computer software; Computer analysis

115 NAL Call No: SD390.7.G73G74
A conceptual framework for assessing impacts of carbon dioxide change on forest industries.
Rose, D.W.; Ek, A.R.; Belli, K.L.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 259-275. maps; 1987. Includes refe ences.

Language: English

Descriptors: U.S.A.; Forest management; Forest products industries; Decision making; Climatic change; Carbon dioxide; Thermal radiation; Supply balance; Forest trees; Geographical distribution

116 NAL Call No: QC981.8.C5C67 1989
Conference on Climate and Water, Helsinki, Finland, 11-15 September 1989.
World Meteorological Organization, Finland, Ymparistoministerio, Unesco

Conference on Climate and Water 1989 : Helsinki, Finland.
Helsinki : Government Printing Centre; 1989.
2 v. : ill. ; 25 cm. (Suomen Akatemian julkaisuja ; 1989/9). Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Hydrology; Water resources development

117 NAL Call No: QC981.8.C5N35
Confronting climate change strategies for energy research and development.
National Research Council (U.S.). Committee on Alternative Energy Research and Development Strategies
Washington, D.C. : National Academy Press; 1990.
xv, 127 p. : ill. ; 26 cm. DOE/eh/89927P-H1. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Greenhouse gases; Greenhouse effect, Atmospheric; Power resources

118 NAL Call No: S541.5.A4M57
Continental shelf carbon export: an organic sink of the global carbon dioxide cycle.
McRoy, C.P.; Walsh, J.J.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 49-56. maps; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Siberia; Carbon dioxide; Cyclic fluctuations; Biota; Marine areas; Carbon cycle; Oceanography

119 NAL Call No: QC912.3.C6
Cooling the greenhouse vital first steps to combat global warming : recommendations for U.S. policies and actions from the Natural Resources Defense Council.
Natural Resources Defense Council
Washington, D.C. : Natural Resources Defense Council; 1989.
vi, 72 p. ; 22 cm. "Third printing (minor revisions) may 1989", T.p. verso.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global warming

120 NAL Call No: QC981.8.C5N67 1988
Coping with climate change proceedings of the Second North American Conference on Preparing for Climate Change, a cooperative approach.
Climate Institute (Washington, D.C.)
North American Conference on Preparing for Climate Change 2nd : 1988 : Climate Institute.
Washington, D.C. : Climate Institute; 1989.
xi, 696 p., [4] leaves of plates : ill. ; 28 cm. Held in Washington, D.C., Dec. 6-8, 1988. June 1989. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Congresses; Climatic changes; North America; Congresses

121 NAL Call No: 340.8 AG8
Crop responses to carbon dioxide doubling: a literature survey.
Cure, J.D.; Acock, B.
Amsterdam : Elsevier Science Publishers; 1986 Oct.
Agricultural and forest meteorology v. 38 (1/3): p. 127-145; 1986 Oct. Includes references.

Language: English

Descriptors: Crop yield; Carbon dioxide; Crop sensitivity; Atmosphere; Water stress

122 NAL Call No: QC981.8.C5W66 1986
Current issues in atmospheric change summary and conclusions of a workshop, October 30-31, 1986.
Nordhaus, William D.
National Research Council (U.S.), Board on Atmospheric Sciences and Climate, National Research Council (U.S.), Commission on Physical Sciences, Mathematics, and Resources
Workshop on Atmospheric Change 1986 : Washington, D.C.
Washington, D.C. : National Academny Press; 1987, reprinted 1987.
ix, 39 p. : ill. ; 23 cm. Chairman: William D. Nordhaus. "PB88-114335" on cover. Includes bibliographical references (p. 29).

Language: English

Descriptors: Climatic changes; Congresses; Atmospheric ozone; Reduction; Congresses

123 NAL Call No: S544.3.V8V53
A dendrochronological study of drought in the Hudson Valley, New York.
Cook, E.R.

Blacksburg, Va. : The School; 1981 Aug.
FWS - Virginia Polytechnic Institute and State University, School of Forestry and Wildlife Resources (2-80)): p. 133-141. maps; 1981 Aug. Paper presented at the Conference on "Dendrology in the Eastern Deciduous Biome," September 11-13, 1979, Blacksburg, Virginia. Includes references.

Language: English

Descriptors: New York; Forests; Annual rings; Drought; Dendroclimatology; Climatic change

124 NAL Call No: QC879.8.D47
Detecting the climatic effects of increasing carbon dioxide.
MacCracken, Michael C.; Luther, F. M.
Washington, D.C. : U.S. Dept. of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division ; Springfield, Va. : Available from National Technical Information Service, U.S. Dept. of Commerce; 1985.
xxviii, 198 p. : ill. ; 28 cm. December 1985. DOE/ER-0235. Dist. category UC-11. Includes bibliographies and indexes.

Language: English

Descriptors: Atmospheric carbon dioxide; Climatic changes

125 NAL Call No: 292.8 W295
The development and testing of a water balance model for climate impact assessment: modeling the Sacramento Basin.
Gleick, P.H.
Washington, D.C. : American Geophysical Union; 1987 Jun.
Water resources research v. 23 (6): p. 1049-1061. maps; 1987 Jun. Includes references.

Language: English

Descriptors: California; Water balance; Water availability; Climatic change; Hydrology; Runoff; Soil moisture

126 NAL Call No: aQK751.U7 1988
Direct responses of forest trees to rising atmospheric carbon dioxide.
Norby, R.J.
Broomall, PA : Northeastern Forest Experiment Station, [1989?]; 1989 Sep.
Air pollution effects on vegetation, including forest ecosystems : proceedings of the Second US-USSR Symposium / edited by Reginald D. Noble, Juri L. Martin, and Keith F. Jensen. p. 243-249; 1989 Sep. Papers presented at an International Conference, September 13-25, 1988, at Corvallis, Oregon; Raleigh, North Carolina; Gatlinburg, Tennessee. Includes references.

Language: English

Descriptors: Forest trees; Carbon dioxide; Responses; Climatic change

127 NAL Call No: QH344.G562
Diurnal CO2 exchange and photosynthesis of the Samoa tropical forest.
Ryan, S.
Washington, D.C. : American Geophysical Union; 1990 Mar.
Global biogeochemical cycles v. 4 (1): p. 69-84. maps; 1990 Mar. Includes references.

Language: English

Descriptors: American samoa; Tropical forests; Carbon dioxide; Gas exchange; Photosynthesis; Respiration; Weather; Wind

128 NAL Call No: QK710.P55
Does climatic warming increase the risk of frost damage in northern trees?
Hanninen, H.
Oxford : Blackwell Scientific Publications; 1991 Jun.
Plant, cell and environment v. 14 (5): p. 449-454; 1991 Jun. Includes references.

Language: English

Descriptors: Finland; Forest trees; Buds; Budding; Plant development; Timing; Frost injury; Risk; Phenology; Dormancy; Climatic change; Air temperature; Simulation models; Computer simulation; Boreal forests; Carbon dioxide enrichment

129 NAL Call No: KF26.E55 1989
DOE's national energy plan and global warming hearing before the Committee on Energy and Natural Resources, United States Senate, One Hundred First Congress, first session ... July 26, 1989.
United States. Congress. Senate. Committee on Energy and Natural Resources
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.En 2:S.hrg.101-235.
iii, 155 p. : ill. ; 24 cm. (S. hrg. ; 101-235). Distributed to some depository libraries in microfiche. Includes bibliographical references (p. 69).

Language: English

Descriptors: Climatic changes; United States; Energy policy; United States; Global warming

130 NAL Call No: SB123.3.C57
Ecological effects of climate change on plant populations and vegetation composition with particular reference to the British flora.
Grime, J.P.
New York : Belhaven Press; 1990.
Climatic change and plant genetic resources / edited by M.T. Jackson, B.V. Ford-Lloyd, M.L. Parry. p. 40-60. maps; 1990. Literature review. Includes references.

Language: English

Descriptors: Great Britain; Climatic change; Carbon dioxide; Botanical composition; Phenology; Plant ecology; Plant succession; Vegetation types; Literature reviews

131 NAL Call No: QC981.8.C5E4
Economic and social measures of biologic and climatic change final report.
United States, Dept. of Transportation, Panel on Economic and Social Measures of Biologic and Climatic Change
Arlington, Va. : Institute for Defense Analysis, Science and Technology Division, [1975?]; 1976.
1 v. (various pagings) : ill. (CIAP monograph : 6). September 1975. Prepared for Department of Transportation, Climatic Impact Assessment Program, Office of the Secretary of Transportation. DOT-TST-75-56. PB 247 72. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Social aspects; Climatic changes; Economic aspects; Air; Pollution; Stratosphere; Air quality management

132 NAL Call No: HC603.5.A4
An economic perspective on the greenhouse effect.
Haynes, J.; Fisher, B.S.; Jones, B.P.
Canberra : Australian Bureau of Agricultural and Resource Economics; 1990 Sep.
Agriculture & resources quarterly v. 2 (3): p. 307-316; 1990 Sep. Includes references.

Language: English

Descriptors: Climatic change; Energy conservation; Environmental protection

133 NAL Call No: QC980.C55
The effect of changing climate on Australian biomass production: a preliminary study.
Pittock, A.B.; Nix, H.A.
Dordrecht : D. Reidel Pub. Co; 1986 Jun.
Climatic change v. 8 (3): p. 243-255. maps; 1986 Jun. Includes references.

Language: English

Descriptors: Australia; Biomass determination; Climatic change; Rain; Fluctuations; Carbon dioxide; Historical records; Projections; Models; Infrared radiation; Plant damage

134 NAL Call No: 472 N21
Effect of climate change on fire regimes in northwestern Minnesota.
Clark, J.S.
London : Macmillan Magazines Ltd; 1988 Jul21.
Nature v. 334 (6179): p. 233-235; 1988 Jul21. Includes references.

Language: English

Descriptors: Minnesota; Forest fires; Forest ecology; Climatic change

135 NAL Call No: QH540.N3
The effect of enhanced solar UV-B radiation on motile microorganisms.
Hader, D.P.
Berlin, W. Ger. : Springer-Verlag; 1986.
N.A.T.O. A.S.I (Advanced Study Institute) series. Series G. Ecological sciences v. 8: p. 223-233. ill; 1986. Paper presented at the "Workshop on The Impact of Solar Ultraviolet Radiation upon Terrestial Ecosystems: 1. Agricultural Crops," Sept 27-30, 1983, Windsheim, West Germany. Includes references.

Language: English

Descriptors: Dictyostelium; Euglena gracilis; Phormidium uncinatum; Ultraviolet radiation; Development; Motility; Phototaxis; Solar radiation

136 NAL Call No: QH344.G562
Effect of model structure on the response of terrestrial biosphere models to CO2 and temperature increases.
Harvey, L.D.D.
Washington, D.C. : American Geophysical Union; 1989 Jun.
Global biogeochemical cycles v. 3 (2): p. 137-153;

1989 Jun. Includes references.

Language: English

Descriptors: Atmosphere; Air temperature; Carbon cycle; Carbon dioxide; Detritus; Ecosystems; Photosynthesis; Respiration; Soil biology; Simulation models

137 **NAL Call No: S601.A34**
Effects of atmospheric CO2 enrichment on plant growth: the interactive role of air temperature.
Idso, S.B.; Kimball, B.A.; Anderson, M.G.; Mauney, J.R.
Amsterdam : Elsevier; 1987 Nov.
Agriculture, ecosystems and environment v. 20 (1): p. 1-10; 1987 Nov. Includes references.

Language: English

Descriptors: Arizona; Daucus carota; Raphanus sativus; Eichhornia crassipes; Azolla pinnata; Carbon dioxide enrichment; Air temperature; Growth rate

138 **NAL Call No: QC988.A66G4**
Effects of change in land use on climate in the humid tropics.
Henderson-Sellers, A.
New York : John Wiley for the United Nations University; 1987.
The Geophysiology of Amazonia : vegetation and climate interactions / Robert E. Dickinson, editor. p. 463-493; 1987. Literature review. Includes references.

Language: English

Descriptors: Brazil; Climate; Climatic change; Deforestation; Forest influences; Human activity; Humid tropics; Land use; Models; Precipitation; Rain; Statistical analysis; Tropical rain forests

139 **NAL Call No: SB123.3.C57**
Effects of changes in climate and physiology around the dry limits of agriculture in the tropics.
Squire, G.R.
New York : Belhaven Press; 1990.
Climatic change and plant genetic resources / edited by M.T. Jackson, B.V. Ford-Lloyd, M.L. Parry. p. 116-147; 1990. Literature review. Includes references.

Language: English

Descriptors: Climatic change; Dry conditions; Agropastoral systems; Genotypes; Plant breeding; Plant physiology; Tropics; Literature reviews

140 **NAL Call No: QH540.E23**
The effects of climate change on decomposition processes in grassland and coniferous forests.
Anderson, I.M.
Tempe, Ariz. : Ecological Society of America; 1991 Aug.
Ecological applications v. 1 (3): p. 326-347; 1991 Aug. Includes references.

Language: English

Descriptors: Climatic change; Coniferous forests; Grasslands; Decomposition; Carbon dioxide; Organic matter; Humus; Temperature; Tundra

141 **NAL Call No: 290.9 AM3PS (IR)**
Effects of climate change on U.S. irrigation.
Peterson, D.F.; Keller, A.A.
New York, N.Y. : American Society of Civil Engineers; 1990 Mar.
Journal of irrigation and drainage engineering v. 116 (2): p. 194-210; 1990 Mar. Includes references.

Language: English

Descriptors: U.S.A.; Irrigation; Irrigation requirements; Climatic change; Precipitation; Evapotranspiration; Carbon dioxide

142 **NAL Call No: 292.9 AM34**
Effects of climatic change on the Thornthwaite moisture index.
McCabe, G.J. Jr; Wolock, D.M.; Hay, L.E.; Ayers, M.A.
Minneapolis, Minn. : American Water Resources Association; 1990 Aug.
Water resources bulletin v. 26 (4): p. 633-643. maps; 1990 Aug. Includes references.

Language: English

Descriptors: U.S.A.; Water balance; Climatic change; Temperature; Precipitation; Carbon dioxide; Evapotranspiration; Drought; Indexes

143 **NAL Call No: 450 AN7**
The effects of elevated concentrations of carbon dioxide on individual plants, populations, communities and ecosystems.
Woodward, F.I.; Thompson, G.B.; McKee, I.F.
London : Academic Press; 1991 Jun.
Annals of botany v. 67 (suppl.1): p. 23-38; 1991 Jun. Literature review. Includes references.

Language: English

Descriptors: Plant physiology; Carbon dioxide; Enrichment; Growth; Plant ecology; Plant communities; Ecosystems; Climatic change; Literature reviews

Abstract: Changes in the atmospheric concentration of CO2, over periods of millennia, are positively correlated with the temperature of the world. It is expected that this positive correlation will be manifested in the future, warmer 'greenhouse world' with higher concentrations of CO2. The predicted changes in temperature and precipitation are expected to cause significant changes in the distribution patterns of the world's terrestrial vegetation (Woodward and McKee, 1991). In addition to this indirect effect, CO2 influences plants directly and an increase in the concentration of CO2 may increase the rate of photosynthesis in plants with the C3 pathway of fixation. Experimental observations often differ in the degree and length of this stimulation, reflecting the stronger impact of other photosynthetic limitations. Where photosynthetic stimulation does occur there is a general decrease in leaf protein, which may stimulate rates of leaf herbivory. The well established and associated increase in the C/N ratio of individual leaves should reduce rates of leaf decomposition. However the few community experiments at elevated CO2 suggest little change in the rate of nutrient cycling in communities. Stomatal opening is generally reduced as CO2 concentration increases. This feature scales up through to the community level, however, it appears that the total volume of water used by a community is unlikely to alter with CO2 alone, because plants tend to develop leafier canopies. This change, plus enhanced rates of root development, indicate a greater potential for carbon sequestration by terrestrial ecosystems. Monthly observations of atmospheric CO2 concentration above the tundra over the last 14 years indicate these expected increases in the rates of CO2 drawdown by the northern ecosystems of the tundra and the boreal and temperate deciduous forests. However, some of this change may be due to interactions with the warmer climate of the 1980s and perhaps an increased aerial supply o

144 **NAL Call No: QH540.N3**
Effects of enhanced ultraviolet-B radiation on yield and disease incidence and severity for wheat under field conditions.
Biggs, R.H.; Webb, P.G.
Berlin, W. Ger. : Springer-Verlag; 1986.
N.A.T.O. A.S.I (Advanced Study Institute) series. Series G. Ecological sciences v. 8: p. 303-311; 1986. Paper presented at the "Workshop on The Impact of Solar Ultraviolet Radiation upon Terrestial Ecosystems: 1. Agricultural Crops," Sept 27-30, 1983, Windsheim, West Germany. Includes references.

Language: English

Descriptors: Triticum aestivum; Ultraviolet radiation; Crop yield; Cochliobolus sativus; Puccinia recondita; Leptosphaeria nodorum; Ozone; Reduction; Biomass accumulation; Cultivars; Varietal susceptibility

145 **NAL Call No: QK710.P55**
The effects of increased atmospheric carbon dioxide and temperature on carbon partitioning, source-sink relations and respiration.
Farrar, J.F.; Williams, M.L.
Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 819-830; 1991 Oct. Literature review. Includes references.

Language: English

Descriptors: Plants; Carbon dioxide enrichment; Air temperature; Photosynthates; Source sink relations; Sucrose; Starch; Dry matter distribution; Respiration; Literature reviews

146 **NAL Call No: QK710.P55**
The effects of increasing CO2 on crop photosynthesis and productivity: a review of field studies.
Lawlor, D.W.; Mitchell, R.A.C.
Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 807-818; 1991 Oct. Literature review. Includes references.

Language: English

Descriptors: Crops; Photosynthesis; Carbon dioxide enrichment; Biomass production; Water use efficiency; Crop yield; Dry matter accumulation; Dry matter distribution; Field experimentation; Literature reviews

147 **NAL Call No: 450 R11**
Effects of supplemental ultraviolet-B radiation on the growth and physiology of field-grown soybean.
Murali, N.S.; Teramura, A.H.
Oxford : Pergamon Journals; 1986 Jul.
Environmental and experimental botany v. 26 (3): p. 233-242; 1986 Jul. Includes references.

Language: English

Descriptors: Glycine max; Ultraviolet radiation; Growth; Climatic factors; Varietal reactions

148 NAL Call No: QH540.N3
Effects of ultraviolet-B radiation on the growth and productivity of field grown soybean.
Lydon, J.; Teramura, A.H.; Summers, E.G.
Berlin, W. Ger. : Springer-Verlag; 1986.
N.A.T.O. A.S.I (Advanced Study Institute) series. Series G. Ecological sciences v. 8: p. 313-325; 1986. Paper presented at the "Workshop on The Impact of Solar Ultraviolet Radiation upon Terrestial Ecosystems: 1. Agricultural Crops," Sept 27-30, 1983, Windsheim, West Germany. Includes references.

Language: English

Descriptors: Glycine max; Ultraviolet radiation; Growth rate; Solar radiation; Biomass accumulation; Cultivars; Leaf area

149 NAL Call No: QH540.N3
Effects of UV-B radiation on photosynthesis.
Sisson, W.B.
Berlin, W. Ger. : Springer-Verlag; 1986.
N.A.T.O. A.S.I (Advanced Study Institute) series. Series G. Ecological sciences v. 8: p. 161-169; 1986. Paper presented at the "Workshop on The Impact of Solar Ultraviolet Radiation upon Terrestial Ecosystems: 1. Agricultural Crops," Sept 27-30, 1983, Windsheim, West Germany. Literature review. Includes references.

Language: English

Descriptors: Photosynthesis; Ultraviolet radiation; Ozone; Reduction; Chlorophyll [illegible]roplasts; Membranes; Acclimatization; Tolerances

150 NAL Call No: 410 EC7
Elevated atmospheric CO2 effects on belowground processes in C3 and C4 estuarine march communities.
Curtis, P.S.; Balduman, L.M.; Drake, B.G.; Whigham, D.F.
Tempe, Ariz. : The Society; 1990 Oct.
Ecology : a publication of the Ecological Society of America v. 71 (5): p. 2001-2006; 1990 Oct. Includes references.

Language: English

Descriptors: Maryland; Scirpus; Spartina; Bog plants; Carbon dioxide; Climatic change; Growth; Nitrogen; Plant communities; Rhizomes; Roots; Wetlands

151 NAL Call No: TJ810.A1S6
The empirical relationship between global radiation and global ultraviolet (0.290-0.385) micrometers solar radiation components.
Al-Aruri, S.D.
Elmsford, N.Y. : Pergamon Press; 1990.
Solar energy v. 45 (2): p. 61-64; 1990. Includes references.

Language: English

Descriptors: Kuwait; Solar radiation; Components; Ultraviolet radiation; Measurement

152 NAL Call No: QC981.8.C5U514
Energy and climate change report of the DOE Multi-Laboratory Climate Change Committee.
United States. DOE Multi-Laboratory Climate Change Committee; Lawrence Livermore National Laboratory
Chelsea, Mich. : Lewis Publishers; 1990.
xvi, 161 p. : ill. ; 27 cm. Includes bibliographical references (p. 147-160).

Language: English

Descriptors: Climatic changes; Atmospheric carbon dioxide; Energy consumption

153 NAL Call No: Audiocassette no.155
Energy, global warming & sust [i.e. sustainable] ag [i.e. agriculture] Amory Lovins. (Energy, global warming and sustainable agriculture.)
Lovins, Amory B.,
Committee for Sustainable Agriculture, Audio Productions
Ecological Farmer Conference 1990 : Asilomar, Calif.
Colfax, CA : CSA ; [Seattle, WA : Distributed by] Audio Productions; 1990.
1 sound cassette (ca. 95 min.). At head of title: Ecological Farmer Conference 1990. Presented at the 10th anniversary Ecological Farming Conference, January 12-14, 1990, at Asilomar, Calif. F 710.

Language: English

Descriptors: Global warming; Congresses; Sustainable agriculture; Congresses; Agricultural ecology; Congresses; Agricultural; Energy consumption; Environmental aspects; Congresses

154 NAL Call No: KF27.I5542 1988b
Energy policy implications of global warming hearings before the Subcommittee on Energy and

BEST COPY AVAILABLE

Power of the Committee on Energy and Commerce, House of Representatives, One Hundredth Congress, second session, July 7 and September 22, 1988.
United States. Congress. House. Committee on Energy and Commerce. Subcommittee on Energy and Power
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.En 2/3:100-229.
iii, 265 p. : ill., maps ; 24 cm. Cover title. Serial no. 100-229. Includes bibliographies.

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric; United States; Atmospheric carbon dioxide; Environmental aspects; United States

155 NAL Call No: S600.7.C54E87
Estimating effects of climatic change on agriculture in Saskatchewan, Canada.
Williams, G. Daniel V.
Laxenburg, Austria : International Institute for Applied Systems Analysis ; [S.l.] : United Nations Environment Programme; 1987.
v, 147 p. : ill. ; 30 cm. Preprinted from: M.L. Parry, T.R. Carter, and N.T. Konijn (Eds) (1987), The impact of climatic variations on agriculture. Volume 1. Assessments in cool temperate and cold regions (Reidel, Dordrecht, The Netherlands). Includes bibliographical references (p. 104-112).

Language: English

Descriptors: Climatic changes; Saskatchewan; Agriculture; Saskatchewan; Crops and climate; Saskatchewan; Agricultural estimating and reporting; Saskatchewan; Agriculture and state; Saskatchewan

156 NAL Call No: SD13.C35
Estimating the effects of land-use change on global atmospheric CO2 concentrations.
Dale, V.H.; Houghton, R.A., Hall, C.A.S.
Ottawa, Ont. : National Research Council of Canada; 1991 Jan.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 21 (1): p. 87-90; 1991 Jan. Includes references.

Language: English

Descriptors: Asia; Climatic change; Temperature; Carbon dioxide; Land use; Land clearance

157 NAL Call No: NBUQC980 E9 1989
Europhysics Study Conference on Induced Critical Conditions in the Atmosphere, Torino, Italy, 27-30 September 1989. (Induced critical conditions in the atmosphere.)
Tartaglia, A.; Vadacchino, M.
Europhysics Study Conference on Induced Critical Conditions in the Atmosphere 1989 : Torino, Italy.
Singapore ; Teaneck, New Jersey : World Scientific; 1990.
x, 280 p. : ill. ; 23 cm. Spine title: Induced critical conditions in the atmosphere.

Language: English

Descriptors: Climatology; Nuclear winter; Ozone layer depletion; Greenhouse effect, Atmospheric

158 NAL Call No: SD390.7.G73G74
Evidence for future warming: how large and when?
Hansen, J.; Lacis, A.; Rind, D.; Russell, G.; Fung, I.; Lebedeff, S.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 57-75. maps; 1987. Includes references.

Language: English

Descriptors: Climatic change; Models; Thermal radiation; Prediction; Carbon dioxide; Ozone; World problems

159 NAL Call No: QH541.5.S3E97
Expected effects of climatic change on marine coastal ecosystems.
Beukema, Jan J.,1935-; Wolff, W. J.; Brouns, Joop J. W. M.,
Dordrecht ; Boston : Kluwer Academic; 1990.
221 p. : ill. ; 27 cm. (Developments in hydrobiology ; 57). Papers from an international workshop held on Texel, the Netherlands, Nov. 11-15, 1988. Includes bibliographical references.

Language: English

Descriptors: Marine ecology; Coastal ecology; Climatic changes

160 NAL Call No: SD390.6.C2E86
An Exploration and assessment of the implications of climatic change for the boreal forest and forestry economics of the Prairie Provinces and Northwest Territories phase one.
Wheaton, E. E.

Canada, Atmospheric Environment Service, Saskatchewan Research Council
Saskatoon, Saskatchewan : Saskatchewan Research Council; 1987.
xxxii, 282 p. : ill., maps ; 28 cm. (SRC technical report ; no. 211). Under contract with the Atmospheric Environment Service, Environment Canada, DSS contract no. 02SE.KM111-6-6330. November, 1987. SRC publication no. E-906-36-B-87. Bibliography: p. 213-235.

Language: English

Descriptors: Forest meteorology, Canada; Greenhouse effect, Atmospheric, Canada; Climatic changes, Economic aspects, Canada; Forest influences, Canada; Forests and forestry, Economic aspects, Canada

161 **NAL Call No: 501 L84B**
An exploratory model of the impact of rapid climate change on the world food situation.
Daily, G.C.; Ehrlich, P.R.
London : The Society; 1990 Sep22.
Proceedings of the Royal Society of London : Series B : Biological sciences v. 241 (1302): p. 232-244; 1990 Sep22. Includes references.

Language: English

Descriptors: Climatic change; Famine; Food supply; Human population; Population growth; Simulation models; Starvation; World food problems

162 **NAL Call No: QC912.3.W34**
Farming in the greenhouse what global warming means for American agriculture.
Ward, Justin R.; Hardt, Richard A.; Kuhnle, Thomas E.
Natural Resources Defense Council
Washington, D.C. : Natural Resources Defense Council; 1989.
viii, 33 p. : ill., maps ; 28 cm. March 1989. Includes bibliographical references.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global temperature changes; Meteorology, Agricultural

163 **NAL Call No: Z699.F64**
Focus on global change. (Focus on global change Global change.)
Institute for Scientific Information
Philadelphia, PA : Institute for Scientific Information, 1990-; 1990-9999.
computer disks ; 5 1/4 in. + user guide. Description based on: Vol. 1, no. 3 (April 2, 1990); title from disk label. User guide includes index.

Language: English

Descriptors: Global temperature changes; Periodicals; Bibliography; Data bases; Global warming; Periodicals; Bibliography; Data bases

164 **NAL Call No: 292.8 W295**
Foliage temperature: effects of environmental factors with implications for plant water stress assessment and the CO2/climate connection.
Idso, S.B.; Clawson, K.L.
Washington, D.C. : American Geophysical Union; 1986 Nov.
Water resources research v. 22 (12): p. 1702-1716; 1986 Nov. Includes references.

Language: English

Descriptors: Arizona; Eichhornia crassipes; Medicago sativa; Gossypium hirsutum; Foliage; Temperatures; Transpiration; Water stress; Carbon dioxide; Climate; Climatic change

165 **NAL Call No: QC988.A66G4**
The forest and the hydrological cycle.
Salati, E.
New York : John Wiley for the United Nations University; 1987.
The Geophysiology of Amazonia : vegetation and climate interactions / Robert E. Dickinson, editor. p. 273-296. ill., maps; 1987. Includes references.

Language: English

Descriptors: Brazil; Climatic change; Deforestation; Forest influences; Humid tropics; Hydrological cycle; Precipitation; River basins; Solar radiation; Water balance; Water vapor

166 **NAL Call No: QH545.A1E52**
Forest responses to tropospheric ozone and global climate change: an analysis.
Kickert, R.N.; Krupa, S.V.
Essex : Elsevier Applied Science; 1990.
Environmental pollution v. 68 (1/2): p. 29-65. maps; 1990. Literature review. Includes references.

Language: English

Descriptors: Ozone; Forests; Climatic change; Ecosystems; Responses; Literature reviews

167 **NAL Call No: SD390.7.G73G74**

Forestry research needs and strategies.
Lee, J.C.; Kramer, P.J.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 295-302; 1987.

Language: English

Descriptors: Forestry; Research projects; Planning of research; Climatic change; Carbon dioxide; Economic factors

168 **NAL Call No: 99.8 F768**
Forests to offset the greenhouse effect.
Sedjo, R.A.
Bethesda, Md. : Society of American Foresters; 1989 Jul.
Journal of forestry v. 87 (7): p. 12-15. ill., maps; 1989 Jul. Includes references.

Language: English

Descriptors: Climatic change; Afforestation; Forest plantations; Carbon dioxide

169 **NAL Call No: TD885.5.C3F8**
Future atmospheric carbon dioxide scenarios and limitation strategies.
Edmonds, J. A.
Park Ridge, N.J., U.S.A. : Noyes Publications; 1986.
xx, 620 p. : ill. ; 25 cm. Includes bibliographies.

Language: English

Descriptors: Atmospheric carbon dioxide, Environmental aspects, North America; Fossil fuels, Environmental aspects, North America; Climatic changes, North America; Corn, North America, Climatic factors

170 **NAL Call No: SD390.5.F6 1985**
Gas exchange between forest and atmosphere.
Murphy, C.E. Jr
Washington, D.C. : U.S. Dept. of Energy; 1987 May.
Proceedings of the Forest-Atmosphere Interaction Workshop, Lake Placid, New York, October 1-4, 1985 / coordinated and edited by Harry Moses ... [et al.]. p. 147-181. ill; 1987 May. Includes references.

Language: English

Descriptors: Forest trees; Canopy; Gas exchange; Diffusion; Atmosphere; Leaves; Carbon dioxide; Water vapor; Sulfur dioxide; Soils; Diurnal variation

171 **NAL Call No: TD885.5.C3N3**
Glaciers, ice sheets, and sea level effect of a CO2-induced climatic change : report of a workshop held in Seattle, Washington, September 13-15, 1984.
National Research Council (U.S.). Ad Hoc Committee on the Relationship Between Land Ice and Sea Level; United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Springfield, Va. : Available from the National Technical Information Service; 1985.
xiii, 330 p. : ill. , maps ; 28 cm. DOE/ER/60235-1. September 1985. Prepared for United States Department of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division. Includes bibliographies.

Language: English

Descriptors: Carbon dioxide; Environmental aspects; Congresses; Climatic changes; Congresses; Glaciers; Congresses; Ice; Congresses; Sea level; Congresses

172 **NAL Call No: 99.8 F768**
The global carbon cycle.
Sedjo, R.A.
Bethesda, Md. : Society of American Foresters; 1990 Oct.
Journal of forestry v. 88 (10): p. 33-34; 1990 Oct. Includes references.

Language: English

Descriptors: Climatic change; Carbon; Land use; Forests

173 **NAL Call No: QH545.A1E52**
The global carbon cycle and climate change: responses and feedbacks from below-ground systems.
Dixon, R.K.; Turner, D.P.
Essex : Elsevier Applied Science; 1991.
Environmental pollution v. 73 (3/4): p. 245-262; 1991. Special issue on "Plant Response to Atmospheric Change". Includes references.

Language: English

Descriptors: Carbon; Cycling; Climatic change; Carbon dioxide; Soil; Vegetation types; Nutrient content

174 **NAL Call No: QC903.G5**
Global change.
International Geosphere-Biosphere Program "Global Changes.",Secretariat
Stockholm : IGBP Secretariat, 1986-; 1986-9999.
Global change - IGBP. v. ; 30 cm; 1986-9999.

Language: English

Descriptors: Global temperature changes; Climatic changes

175 **NAL Call No: Q180.U5A4 1989**
Global change 1989 40th Arctic Science Conference, Fairbanks, Alaska : proceedings, September 14-16, 1989.
Arctic Science Conference 1989 : Fairbanks, Alaska); American Association for the Advancement of Science, Arctic Division, University of Alaska, Fairbanks, Institute of Arctic Biology
Fairbanks, Alaska : Arctic Division, American Association for the Advancement of Science and Institute of Arctic Biology, University of Alaska Fairbanks, 1989.
v, 65 p. ; 28 cm. Includes index.

Language: English

Descriptors: Climatic changes; Global temperature changes

176 **NAL Call No: HC79.E5G56**
Global change and our common future papers from a forum.
DeFries, Ruth S.; Malone, Thomas F.
National Research Council (U.S.), Committee on Global Change
Forum on Global Change and Our Common Future 1989 : Washington, D.C.
Washington, D.C. : National Academy Press; 1989.
xiii, 227 p. : ill., maps ; 28 cm. Committee on Global Change, National Research Council. Proceedings of the Forum on Global Change and Our Common Future, held on May 2-3, 1989, at the National Theatre in Washington, D.C., and organized by the the National Research Council's Committee on Global Change. Includes bibliographical references.

Language: English

Descriptors: Environmental policy; Pollution; Human ecology; Global warming

177 **NAL Call No: 450 AN7**
Global change and the biosphere: introduction.
Chaloner, W.G.
London : Academic Press; 1991 Jun.
Annals of botany v. 67 (suppl.1): p. 1-3; 1991 Jun. Includes references.

Language: English

Descriptors: Uk; Climatic change; Pollution; Environmental factors; Ozone; Weather; Research projects

178 **NAL Call No: KF27.S3978 1989h**
The Global Change Research Act of 1989 hearing before the Subcommittee on Natural Resources, Agriculture Research, and Environment and the Subcommittee on International Scientific Cooperation of the Committee on Science, Space, and Technology, House of Representatives, One Hundred First Congress, first session, July 27, 1989.
United States. Congress. House. Committee on Science, Space, and Technology. Subcommittee on Natural Resources, Agriculture Research, and Environment; United States. Congress. House. Committee on Science, Space, and Technology. Subcommittee on International Scientific Cooperation
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1990; Y 4.Sci 2:101/74.
iii, 280 p. : ill. ; 24 cm. Distributed to some depository libraries in microfiche, No. 74.

Language: English

Descriptors: Climatic changes; Research; United States; Global temperature changes; Research; United States

179 **NAL Call No: KF26.C6 1988**
Global change research hearing before the Committee on Commerce, Science, and Transportation, United States Senate, One Hundredth Congress, second session, on global change research and S. 2614 ... July 13, 1988.
United States. Congress. Senate. Committee on Commerce, Science, and Transportation
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1988; Y 4.C 73/7:S.hrg.100-816.
iii, 94 p. : ill. ; 24 cm. (S. hrg. ; 100-816). Distributed to some depository libraries in microfiche. Shipping list no.: 88-689-P.

Language: English

Descriptors: Climatic changes, Research, United States; Rainfall anomalies, Research, United

States; Greenhouse effect, Atmospheric, Research, United States

180 **NAL Call No: 450 IS7**
Global change: vegetation, ecosystems, and land use in the southern Mediterranean Basin by the mid twenty-first century.
Le Houerou, H.N.
Jerusalem, Israel : Weizmann Science Press of Israel; 1990.
Israel journal of botany v. 39 (4/6): p. 481-508. maps; 1990. Paper published in "Germination Physiology and Desert Ecology", a special edition dedicated to Professor Michael Evenari. Includes references.

Language: English

Descriptors: Mediterranean countries; Middle east; Climatology; Temperature; History; Plant community analysis; Vegetation sampling; Natural distribution; Environmental degradation; Land use; Population growth

181 **NAL Call No: KF26.O3 1989**
Global change, an ocean perspective hearing before the National Ocean Policy Study of the Committee on Commerce, Science, and Transportation, United States Senate, One Hundred First Congress, first session ... April 11, 1989. (Global change, an ocean perspective.)
United States. Congress. Senate. National Ocean Policy Study
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.C 73/7:S.hrg.101-95.
iii, 81 p. : ill. ; 24 cm. (S. hrg. ; 101-95). Distributed to some depository libraries in microfiche. Bibliography: p. 54-55.

Language: English

Descriptors: Ocean-atmosphere interaction; Climatic changes; Oceanography; United States

182 **NAL Call No: TD419.R47**
Global climate change and acidic deposition.
Nikolaidis, N.P.; Ecsedy, C.; Nikolaidis, V.S.; Olem, H.; Saldi, K.; Tarbox, S.
Alexandria, Va. : The Federation; 1991 Jun.
Research journal of the Water Pollution Control Federation v. 63 (4): p. 735-746; 1991 Jun. Includes references.

Language: English

Descriptors: Air pollution; Climatic change; Acid deposition; Models; Reviews

183 **NAL Call No: QC903.G8 1988**
Global climate change and the greenhouse effect congressional activity and options.
Gushee, David E.
Library of Congress, Congressional Research Service
Washington, D.C. : Major Issues System, Congressional Research Service, Library of Congress; 1988. 14 p. ; 28 cm. (CRS issue brief). Cover title. Updated November 2, 1988. Bibliography: p. 14.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global temperature changes; Climatic changes; Research; United States

184 **NAL Call No: 472 N21**
Global climate change and US agriculture.
Adams, R.M.; Rosenzweig, C.; Peart, R.M.; Ritchie, J.T.; McCarl, B.A.; Glyer, J.D.; Curry, R.B.; Jones, J.W.; Boote, K.J.; Allen, L.H. Jr
London : Macmillan Magazines Ltd; 1990 May17.
Nature v. 345 (6272): p. 219-224. maps; 1990 May17. Includes references.

Language: English

Descriptors: Agricultural production; Agricultural economics; Climatic change; Carbon dioxide; Crop yield

Abstract: Agricultural productivity is expected to be sensitive to global climate change. Models from atmospheric science, plant science and agricultural economics are linked to explore this sensitivity. Although the results depend on the severity of climate change and the compensating effects of carbon dioxide on crop yields, the simulation suggests that irrigated acreage will expand and regional patterns of US agriculture will shift. The impact on the US economy strongly depends on which climate model is used.

185 **NAL Call No: KF26.A6486 1990**
Global climate change hearing before a subcommittee of the Committee on Appropriations, United States Senate, One Hundred First Congress, second session : special hearing.
United States. Congress. Senate. Committee on Appropriations. Subcommittee on HUD-Independent Agencies
Washington : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.;

1990; Y 4.Ap 6/2:S.hrg.101-965.
iii, 108 p. : ill. ; 24 cm. (S. hrg. ; 101-965). "Fiscal year 1991", Cover. Distributed to some depository libraries in microfiche.

Language: English

Descriptors: Climatic changes; Global warming

186 NAL Call No: KF27.M473 1989a
Global climate change hearing before the Subcommittee on Oceanography and the Great Lakes of the Committee on Merchant Marine and Fisheries, House of Representatives, One Hundred First Congress, first session, on H.R. 980 ... May 4, 1989.
United States. Congress. House. Committee on Merchant Marine and Fisheries. Subcommittee on Oceanography and the Great Lakes
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.M 53:101-15.
iii, 165 p. : ill. ; 24 cm. Distributed to some depository libraries in microfiche. Shipping list no.: 89-539-P. Serial no. 101-15. Includes bibliographical references.

Language: English

Descriptors: Greenhouse effect, Atmospheric; United States; Global temperature changes; Environmental law; United States; Environmental policy; United States

187 NAL Call No: KF27.F645 1989b
Global climate change hearing before the Subcommittees on Human Rights and International Organizations of the Committee on Foreign Affairs, House of Representatives, One Hundred First Congress, first session, October 26, 1989.
United States. Congress. House. Committee on Foreign Affairs. Subcommittee on Human Rights and International Organizations
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1990; Y 4.F 76/1:G 51/5.
iii, 109 p. : ill. ; 24 cm. Distributed to some depository libraries in microfiche. Shipping list no.: 90-205-P. Includes bibliographical references (p. 102-103).

Language: English

Descriptors: Climatic changes; Global temperature changes; Environmental protection; Research; United States; Conservation of natural resources; International cooperation

188 NAL Call No: HD1761.U17
Global climate change holds problems and uncertainties for agriculture.
Rosenberg, N.J.
Washington, D.C. : National Center for Food and Agric Policy, Resources for the Future; 1988.
U.S. agriculture in a global setting : an agenda for the future / M. Ann Tutwiler, editor. p. 203-218. maps; 1988. Includes references.

Language: English

Descriptors: U.S.A.; Agricultural meteorology; Climatic change; Crop yield; Agricultural policy

189 NAL Call No: QC981.8.C5G66
Global climate change human and natural influences.
Singer, S. Fred
New York, N.Y. : Paragon House Publishers; 1989.
vii, 424 p. : ill. ; 24 cm. An ICUS book. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Man; Influence on nature

190 NAL Call No: aSD11.U57
Global climate change: implications for silviculture and pest management.
Hedden, R.L.
New Orleans, La. : The Station; 1989.
General technical report SO - U.S. Department of Agriculture, Forest Service, Southern Forest Experiment Station (74): p. 555-562; 1989. Paper presented at the Fifth Biennial Southern Silvicultural Research Conference, Nov 1-3, 1988, Memphis, Tennessee. Includes references.

Language: English

Descriptors: Climatic change; Forestry; Silviculture; Human activity; Carbon dioxide; Insect control; Dendroctonus frontalis

191 NAL Call No: KF26.A35 1989j
Global Climate Change Prevention Act of 1989, S. 1610 hearing before the Committee on Agriculture, Nutrition, and Forestry, United States Senate, One Hundred First Congress, first session, on S. 1610 ... November 6, 1989.
United States. Congress. Senate. Committee on Agriculture, Nutrition, and Forestry
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S.

G.P.O.; 1991; Y 4.Ag 8/3:S.hrg.101-1135.
iii, 96 p. ; 24 cm. (S. hrg. ; 101-1135). Distributed to some depository libraries in microfiche. Shipping list no.: 91-097-P.

Language: English

Descriptors: Climatic changes; Reforestation; Environmental law; Agricultural laws and legislation

192 **NAL Call No: KF26.C69 1990a**
Global climate change seeking a global consensus : hearing before the Committee on Commerce, Science, and Transportation, United States Senate, One Hundred First Congress, second session ... June 14, 1990.
United States. Congress. Senate. Committee on Commerce, Science, and Transportation
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1990; Y 4.C 73/7:S.hrg.101-842.
iii, 56 p. : ill. ; 24 cm. (S. hrg. ; 101-842). Distributed to some depository libraries in microfiche.

Language: English

Descriptors: Global warming; Global temperature changes; Climatic changes

193 **NAL Call No: KF27.F645 1988**
Global climate changes greenhouse effect : hearing before the Subcommittee on Human Rights and International Organizations of the Committee on Foreign Affairs, House of Representatives, One Hundredth Congress, second session, March 10, 1988.
United States. Congress. House. Committee on Foreign Affairs. Subcommittee on Human Rights and International Organizations
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1988; Y 4.F 76/1:G 51/3.
iii, 147 p. : ill. ; 24 cm. Distributed to some depository libraries in microfiche.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Climatic changes, Environmental aspects; Rainfall anomalies

194 **NAL Call No: QC981.8.C5G5**
Global climate trends and greenhouse gas data federal activities in data collection, archiving, and dissemination : report to the Congress of the United States.
United States, Dept. of Energy, Office of Policy, Planning, and Analysis
Washington, DC : U.S. Dept. of Energy, Office of Environmental Analysis, Deputy Under Secretary for Policy, Planning and Annalysis ; Springfield, Va. : Available from the National Technical Information Service, U.S. Dept. of Commerce; 1990.
1 v. (various pagings) : ill. ; 28 cm. June 1990. DOE/PE-0094P. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Greenhouse effect, Atmospheric; Global warming

195 **NAL Call No: QC981.8.C5C55 1988**
Global climate variations over the past century and the greenhouse effect a report based on the First Climate Trends Workshop, September 7-9, 1988, Washington, D.C.
United States, National Climate Program Office
Climate Trends Workshop 1st : 1988 : Washington, D.C.
Rockville, Md. : National Climate Program Office, [1989?], 1989.
56 p. : ill., maps ; 28 cm. Cover title. Includes bibliographical references (p. 51-54).

Language: English

Descriptors: Climatic changes; Greenhouse effect, Atmospheric; Global temperature changes

196 **NAL Call No: 470 SC125**
Global climatic change.
Houghton, R.A.; Woodwell, G.M.
New York, N.Y. : Scientific American, Inc; 1989 Apr.
Scientific American v. 260 (4): p. 36-44. ill., maps; 1989 Apr. Includes references.

Language: English

Descriptors: Climatic change; Carbon dioxide; Methane; Air pollution; Climate control; Atmosphere

197 **NAL Call No: KF26.C697 1987**
Global environmental change research hearing before the Subcommittee on Science, Technology, and Space and the National Ocean Policy Study of the Committee on Commerce, Science, and Transportation, United States Senate, One hundredth Congress, first session, on global climate change due to manmade changes in the earth's atmosphere, July 16, 1987.
United States. Congress. Senate. Committee on Commerce, Science, and Transportation. Subcom-

mittee on Science, Technology, and Space; United States, Congress, Senate, National Ocean Policy Study
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O., 1987; Y 4.C 73/7-S.hrg.100-301.
iii, 152 p. : ill., 1 map ; 24 cm. (S. hrg. ; 100-301). Distributed to some depository libraries in microfiche. Bibliography: p. 152.

Language: English

Descriptors: Climatic changes, Research, United States; Climatology, Research, United States; Atmosphere, Research, United States

198 **NAL Call No: KF26.E65 1988c**
The Global Environmental Protection Act of 1988 joint hearings before the Subcommittee on Hazardous Wastes and Toxic Substances and the Subcommittee on Environmental Protection of the Committee on Environment and Public Works, United States Senate, One Hundredth Congress, second session, on S. 2666 ... September 14 and 16, 1988.
United States. Congress. Senate. Committee on Environment and Public Works. Subcommittee on Hazardous Wastes and Toxic Substances
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1988; Y 4.P 96/10:S.hrg.100-843.
iv, 415 p. : ill. ; 24 cm. (S. hrg. ; 100-843). Distributed to some depository libraries in microfiche. Includes bibliographies.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Climatic changes; Air, Pollution, Law and legislation, United States; Environmental law, United States

199 **NAL Call No: HC55.N3**
The global greenhouse effect: economic impacts and policy considerations.
Barbier, E.B.
London : Graham & Trotman; 1989 Feb.
Natural resources forum v. 13 (1): p. 20-32. maps; 1989 Feb. Includes references.

Language: English

Descriptors: Weather patterns; Carbon dioxide; Emission; Air pollution; Methane; Nitrous oxide; Economic impact; Environmental policy; Ozone; Climatic change; Cost benefit analysis

200 **NAL Call No: jQC981.8.G56T47**
Global warming.
Tesar, Jenny E.
New York : Facts on File; 1991.
111 p., [16] p. of plates : ill. (some col.) ; 24 cm. (Our fragile planet). Includes bibliographical references (p. 108-109) and index.

Language: English

Descriptors: Global warming; Environmental protection

201 **NAL Call No: 10 J822**
Global warming and crop modelling.
Cochrane, J.
Cambridge : Cambridge University Press; 1990 Oct.
The Journal of agricultural science v. 115 (pt.2): p. 295; 1990 Oct. Includes references.

Language: English

Descriptors: Air temperature; Carbon dioxide; Climatic change; Crop production; Methane; Nitrous oxide; Simulation models

202 **NAL Call No: KF27.E55 1989**
Global warming and its implications for California hearing before the Committee on Energy and Natural Resources, United States Senate, One Hundred First Congress, first session ... Santa Monica, CA, May 20, 1989.
United States. Congress. Senate. Committee on Energy and Natural Resources
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.En 2:S.hrg.101-65.
iii, 179 p. : ill. ; 24 cm. (S. hrg. ; 101-65). Distributed to some depository libraries in microfiche. Includes bibliographical references.

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric; Climatic changes; California

203 **NAL Call No: aZ5071.N3**
Global warming and the greenhouse effect: 1979-1988.
Maclean, J.T.
Beltsville, Md. : The Library; 1988 Sep.
Quick bibliography series - U.S. Department of Agriculure, National Agricultural Library (U.S.). (88-73): 22 p.; 1988 Sep. Updates QB 86-82. Bibliography.

Language: English

Descriptors: Air pollution; Air temperature; Climatic change

204 NAL Call No: QC981.8.G56S8
Global warming and the 'greenhouse effect' current news and views, a general bibliographic compilation.
Stoss, Frederick W.
Center for Environmental Information (U.S.)
Rochester, N.Y. : Center for Environmental Information, Inc.; 1989.
1 v. (unpaged) ; 28 cm. Caption title. Summer 1989.

Language: English

Descriptors: Global warming; Bibliography; Greenhouse effect, Atmospheric; Bibliography

205 NAL Call No: aZ5071.N3
Global warming and the greenhouse effect, January 1979-February 1990.
MacLean, J.T.
Beltsville, Md. : The Library; 1990 Jun.
Quick bibliography series - U.S. Department of Agriculure, National Agricultural Library (U.S.). (90-56): 31 p.; 1990 Jun. Updates QB 89-96. Bibliography.

Language: English

Descriptors: Climatic change; Carbon dioxide; Air temperature; Bibliographies

206 NAL Call No: aZ5071.N3
Global warming and the greenhouse effect, January 1979-March 1986.
Maclean, J.T.
Beltsville, Md. : The Library; 1986 Sep.
Quick bibliography series - National Agricultural Library (U.S.). (86-82): 14 p.; 1986 Sep. Bibliography.

Language: English

Descriptors: Climate; Carbon dioxide; Atmospheric disturbances

207 NAL Call No: aZ5071.N3
Global warming and the greenhouse effect January 1979-May 1989.
MacLean, J.T.
Beltsville, Md. : The Library; 1989 Aug.
Quick bibliography series - U.S. Department of Agriculure, National Agricultural Library (U.S.). (89-96): 27 p.; 1989 Aug. Updates QB 88-73. Bibliography.

Language: English

Descriptors: Climatic change; Bibliographies; Carbon dioxide

208 NAL Call No: GB651.N3
Global warming and the insurance industry.
Berz, G.A.
Paris : Unesco; 1991.
Nature and resources v. 27 (1): p. 19-28; 1991. Includes references.

Language: English

Descriptors: Air pollution; Climatic change; Natural disasters; Insurance; Losses

209 NAL Call No: 100 C12CAG
Global warming and the Sacramento-San Joaquin Delta.
Logan, S.H.
Oakland, Calif. : Division of Agriculture and Natural Resources, University of California; 1990 May.
California agriculture v. 44 (3): p. 16-18. maps; 1990 May.

Language: English

Descriptors: California; Climatic change; Flooding; Deltas; Simulation models; Damage; Costs

210 NAL Call No: QC981.8.G56S33
Global warming are we entering the greenhouse century?
Schneider, Stephen Henry
San Francisco, CA : Sierra Club Books; 1989.
xiv, 317 p. : ill. ; 24 cm. Includes index. Bibliography: p. [286]-306.

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric; Climatic changes

211 NAL Call No: KF26.5.O3 1989d
Global warming hearing before the National Ocean Policy Study of the Committee on Commerce, Science, and Transportation, United States Senate, One Hundred First Congress, first session ... November 14, 1989.
United States. Congress. Senate. Committee on Commerce, Science, and Transportation. National Ocean Policy Study
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O., 1989 [i.e.; 1990]; Y 4.C 73/7:S.hrg.101-559.

iii, 53 p. ; 24 cm. (S. hrg. ; 101-559). Distributed to some depository libraries in microfiche. Shipping list no.: 90-263-P.

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric

212 NAL Call No: KF26.E678 1985b
Global warming hearing before the Subcommittee on Toxic Substances and Environmental Oversight of the Committee on Environment and Public Works, United States Senate, Ninety-ninth Congress, first session, December 10, 1985.
United States. Congress. Senate. Committee on Environment and Public Works. Subcommittee on Toxic Substances and Environmental Oversight
Washington, [D.C.] : U.S. G.P.O.; 1986.
iii, 125 p. : 1 map ; 24 cm. (S. hrg. ; 99-503). Distributed to some depository libraries in microfiche. Shipping list no.: 86-326-P. Includes bibliographical references.

Language: English

Descriptors: Global temperature changes; Greenhouse effect, Atmospheric; Climatic changes

213 NAL Call No: KF27.I5542 1989b
Global warming hearings before the Subcommittee on Energy and Power of the Committee on Energy and Commerce, House of Representatives, One Hundred First Congress, first session, February 21 and May 4, 1989.
United States. Congress. House. Committee on Energy and Commerce. Subcommittee on Energy and Power
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.En 2/3:101-31.
iii, 177 p. : ill. ; 24 cm. Distributed to some depository libraries in microfiche. Serial no. 101-31. Includes bibliographical references.

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric; Energy policy; United States

214 NAL Call No: SD143.S64
Global warming: potential causes of future change in U.S. forests.
Woodman, J.N.
Bethesda, Md. : The Society; 1990.
Proceedings of the ... Society of American Foresters National Convention. p. 5-11. maps; 1990. Paper presented at a meeting on "Forestry on the Frontier," Sept 24-27, 1989, Spokane, Washington. Includes references.

Language: English

Descriptors: Climatic change; Carbon dioxide; Forestry; Stand characteristics; Geographical distribution

215 NAL Call No: QC981.8.G56G58
Global warming the Greenpeace report.
Leggett, Jeremy K.
Greenpeace UK
Oxford [England] ; New York : Oxford University Press; 1990.
xi, 554 p. : ill. ; 20 cm. Includes index.

Language: English

Descriptors: Global warming; Global warming

216 NAL Call No: QC912.3.F34 1989
The greenhouse challenge what's to be done?
Falk, Jim; Brownlow, Andrew
Ringwood, Vic., Australia ; New York, NY, USA : Penguin Books; 1989.
341 p. : ill. ; 20 cm. Includes bibliographical references (p. 284-327) and index.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global warming

217 NAL Call No: QC981.8.G56T69
Greenhouse doubts, energy realities a New Zealand perspective.
Toynbee, P. A.
Wellington, N.Z. : Toynbee and Associates; 1990.
53 p. : ill. ; 30 cm. Includes bibliographical references (p. 4) and index.

Language: English

Descriptors: Global warming; Energy conservation; Greenhouse effect, Atmospheric; Atmospheric carbon dioxide

218 NAL Call No: S1.A375
The greenhouse effect.
Eberlee, J.
Ottawa : Agrican Publishers, Inc; 1988.
Agrologist v. 17 (4): p. 10-12. ill; 1988.

Language: English

Descriptors: Canada; Climatic change; Environ-

mental impact reporting; Prediction; Projections; Atmospheric disturbances; Carbon dioxide; Land use planning

219 **NAL Call No: 100 OR3OR**
The greenhouse effect.
Gentle, T.
Corvallis, Or. : The Station; 1989.
Oregon's agricultural progress - Oregon Agricultural Experiment Station v. 35/36 (411): p. 22-26. ill; 1989.

Language: English

Descriptors: Air pollution; Carbon dioxide; Prediction; Models; Climatic change; Control methods

220 **NAL Call No: QC879.8.W54**
The greenhouse effect.
Wilson, David A.
Black Mountain, NC : Lorien House; 1989.
50 leaves : ill., maps ; 29 cm. LH-34. Includes bibliographical references (leaves 48-49).

Language: English

Descriptors: Greenhouse effect, Atmospheric; Atmospheric carbon dioxide; Atmospheric ozone; Reduction

221 **NAL Call No: Z5158.N67**
The greenhouse effect, a bibliography. (Greenhouse effect.)
Nordquist, Joan
Santa Cruz, CA, USA : Reference and Research Services; 1990.
60 p. ; 22 cm. (Contemporary social issues (Santa Cruz, Calif.) ; no. 18.).

Language: English

Descriptors: Greenhouse effect, Atmospheric

222 **NAL Call No: KF26.E55 1987e**
Greenhouse effect and global climate change hearings before the Committee on Energy and Natural Resources, United States Senate, One Hundredth Congress, first session ....
United States. Congress. Senate. Committee on Energy and Natural Resources
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O., 1988-; 1988-9999; Y 4.En 2:S.hrg.100-461. v. : ill., maps ; 24 cm. (S. hrg. ; 100-461). Distributed to some depository libraries in microfiche. "November 9 and 10, 1987", Pt. 1. "June 23, 1988", Pt. 2. Includes bibliographies.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global temperature changes; Fossil fuels, Environmental aspects, United States

223 **NAL Call No: 500 AM322A**
The greenhouse effect and nature reserves, global warming would diminish biological diversity by causing extinctions among reserve species.
Petersm R.L.; Darling, J.D.S.
Washington, D.C. : The Institute; 1985 Dec.
BioScience - American Institute of Biological Sciences v. 35 (11): p. 707-717. ill., maps; 1985 Dec. Includes references.

Language: English

Descriptors: Natural resources; Nature reserves; Air pollution; Climatic change; Adverse effects; Survival; Species; Diversity

224 **NAL Call No: NBUS494.5 P75 I5 1990**
The greenhouse effect and primary productivity in European agro-ecosystems proceedings of the International Workshop on Primary Productivity of European Agriculture and the Greenhouse Effect, Wageningen, the Netherlands, 5-10 April 1990.
Goudriaan, J.; Keulen, H. van; Laar, H. H. van
International Workshop on Primary Productivity of European Agriculture and the Greenhouse Effect 1990 : Wageningen, Netherlands.
Wageningen : Pudoc; 1990.
90 p. : ill. ; 24 cm. Includes bibliographical references.

Language: English

Descriptors: Agricultural productivity; Greenhouse effect, Atmospheric; Crops and climate; Climatic changes; Agricultural ecology

225 **NAL Call No: NBUS455 G7**
The greenhouse effect and UK agriculture papers and poster displays presented at a conference ... held at the Royal Society, London SW1 on July 14th 1989.
Bennett, R. M.
University of Reading, Centre for Agricultural Strategy
Reading : Centre for Agriculture Strategy, University of Reading; 1989.
144 p. : maps ; 21 cm. (CAS paper, 19).

Language: English

Descriptors: Greenhouse effect, Atmospheric; At-

mospheric carbon dioxide; Clinical changes; Agricultural ecology

226 **NAL Call No: SD390.7.G73G74**
The Greenhouse effect, climate change, and U.S. forests.
Shands, William E.; Hoffman, John S.
Conservation Foundation
Washington, D.C. : Conservation Foundation; 1987.
xiv, 304 p. : ill., maps ; 25 cm.

Language: English

Descriptors: Greenhouse effect, Atmospheric, United States; Forest meteorology, United States; Trees, United States, Climatic factors; Plants, Effect of carbon dioxide on, United States; Forest ecology, United States; Greenhouse effect, Atmospheric; Forest meteorology; Trees, Climatic factors; Plants, Effect of carbon dioxide on; Forest ecology

227 **NAL Call No: QC912.3.G73**
The Greenhouse effect, climatic change, and ecosystems.
Bolin, Bert,
International Council of Scientific Unions, Scientific Committee on Problems of the Environment
Chichester [West Sussex] ; New York : Published on behalf of the Scientific Committee on the Problems of the Environment of the International Council of Scientific Unions by Wiley; 1986.
xxxi, 541 p., 1 p. of plates : ill. (some col.) ; 24 cm. (SCOPE (Series) ; 29.). Includes bibliographies and index.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Climatic changes; Atmospheric carbon dioxide, Environmental aspects

228 **NAL Call No: QC879.8.R62**
The greenhouse effect global warming raises fundamental issues : environmental and energy study of conference special report.
Robock, Alan
Washington, D.C. : U.S. Congress; 1987.
8 leaves : ill. ; 28 cm. Caption title. September 1987.

Language: English

Descriptors: Greenhouse effect, Atmospheric; United States; Atmospheric carbon dioxide; United States; Atmospheric ozone; United States

229 **NAL Call No: QH545.A1E52**
The greenhouse effect: impacts of ultraviolet-B (UV-B) radiation, carbon dioxide (CO2), and ozone (O3) on vegetation.
Krupa, S.V.; Kickert, R.N.
Essex : Elsevier Applied Science; 1989.
Environmental pollution v. 61 (4): p. 263-393. maps; 1989. Includes references.

Language: English

Descriptors: Climatic change; Ozone; Carbon dioxide; Ultraviolet radiation; Vegetation; Plant damage; Air pollution; Stress response

230 **NAL Call No: HD9682.G73**
The Greenhouse effect investment implications and opportunities : proceedings of an Investor Forum held in New York City, October 4, 1989.
Cougan, Douglas G.
Investor Responsibility Research Center, World Resources Institute
Washington, D.C. : Investor Responsibility Research Center; 1990.
v, 158 p. : ill., maps ; 28 cm. Forum sponsors: Investor Responsibility Research Center, World Resources Institute.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Congresses; Global warming; Congresses; Climatic changes; Congresses

231 **NAL Call No: QC981.8.C5H4**
The greenhouse effect living in a warmer Australia.
Henderson-Sellers, A.; Blong, R. J.
Kensington, N.S.W. : New South Wales University Press; 1989.
211 p. : ill., maps ; 22 cm. Includes bibliographical references (p. [197]-198).

Language: English

Descriptors: Greenhouse effect, Atmospheric; Australia; Climatic changes; Australia; Atmospheric temperature; Australia; Solar radiation

232 **NAL Call No: HC79.E5G78**
The greenhouse effect negotiating targets.
Grubb, Michael
Royal Institute of International Affairs
London : Royal Institute of International Affairs; 1989.
viii, 56 p. : ill. ; 30 cm. (Energy and environmental

programme). Includes bibliographical references.

Language: English

Descriptors: Greenhouse effect, atmospheric; Environmental policy

233 **NAL Call No: SB436.J6**
The greenhouse effect: perceptions and misperceptions.
Cosgrove, T.J.
Urbana, Ill. : International Society of Arboriculture; 1989 Dec.
Journal of arboriculture v. 15 (12): p. 285-289; 1989 Dec. Includes references.

Language: English

Descriptors: World problems; Climate; Changes; Temperature; Problem analysis; Drought; Air pollution

234 **NAL Call No: 292.9 C1282**
The greenhouse effect: reality and potential consequences.
Rind, D.
Riverside, Calif. : The Center; 1990 May.
Report - California Water Resources Center, University of California (72): p. 69-72; 1990 May. Proceedings: Coping with Water Scarcity: The Role of Ground Water. Paper presented at the "Seventeenth Biennial Conference on Ground Water, September 25-26, 1989, San Diego, California. Includes references.

Language: English

Descriptors: U.S.A.; Climatic change; Water supply; Environmental impact

235 **NAL Call No: QC912.3.G74**
Greenhouse effect report.
Silver Spring, MD : Business Publishers; 1989-9999.
Greenhouse effect report. v. ; 28 cm; 1989-9999. Description based on: Vol. 2, no. 12 (Nov. 16, 1990); title from caption.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global warming

236 **NAL Call No: 10 OU8**
The greenhouse effect, meteorological mechanisms and models.
Hume, C.J.; Cattle, H.
Oxon : C.A.B. International; 1990.
Outlook on agriculture v. 19 (1): p. 17-23; 1990. Includes references.

Language: English

Descriptors: Climatic change; Air pollutants; Air temperature; Carbon dioxide; Clouds; Human activity; Meteorology; Methane; Nitrous oxide; Ozone; Simulation models

237 **NAL Call No: TD420.A1E5**
Greenhouse gases and global change: international collaboration.
Rosswall, T.
Washington, D.C. : American Chemical Society; 1991 Apr.
Environmental science & technology v. 25 (4): p. 567-573. maps; 1991 Apr. Includes references.

Language: English

Descriptors: Air pollution; Climatic change; Greenhouses; Gases; Carbon dioxide; Methane; Nitrous oxide; Ozone; International cooperation; Programs

238 **NAL Call No: QC912.3.G735**
Greenhouse planning for climate change.
Pearman, G. I.
Leiden ; New York : E.J. Brill; 1988.
xv, 752 p. : ill. ; 26 cm. Papers of a conference held at Monash University, Melbourne, in 1987. Includes bibliographies.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Australia; Congresses; Climatic changes; Australia; Congresses

239 **NAL Call No: QC981.8.G56L97**
The greenhouse trap what we're doing to the atmosphere and how we can slow global warming.
Lyman, Francesca
Boston : Beacon Press; 1990.
xvii, 190 p. : ill. ; 21 cm. (A World Resources Institute guide to the environment). Includes bibliographical references (p. 175-183) and index.

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric

240 **NAL Call No: QC912.3.G737**
Greenhouse warming abatement and adaptation.
Rosenberg, Norman J.,
Resources for the Future
Washington, D.C. : Resources for the Future; 1989.

xiii, 182 p. : ill. ; 28 cm. Proceedings of a workshop held in Washington, D.C. June 14-15, 1988; workshop sponsors, Resources for the Future ... [et al.]. Errata slip inserted. Includes bibliographical references.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Congresses; Climatic changes; Congresses

241 NAL Call No: HD9000.1.F66
Greenhouse warming and climate change, why should we care?
Crosson, P.
Guilford : Butterworths; 1989 May.
Food policy v. 14 (2): p. 107-118; 1989 May. Includes references.

Language: English

Descriptors: Climatic change; Atmosphere; Carbon dioxide; Temperatures; Trends; Agricultural policy

Abstract: Carbon dioxide levels in the earth's atmosphere will probably double by the middle of the next century, and this will lead to an increase in global average temperatures of between 1.5 degrees C and 5.5 degrees C. There would probably be shifts between regions in comparative agricultural advantage, but the overall economic and environmental costs of world agricultural production would not necessarily rise. However, the gap between greenhouse gas emissions and the ability of the oceans and biosphere to absorb them is continuing to grow, and will eventually lead to further global warming with undoubtedly damaging consequences unless the trend is reversed. If coordinated international action is taken now, it is possible that the challenge can be met without sacrificing income growth.

242 NAL Call No: QC912.3.G7374
Greenhouse warming negotiating a global regime.
Benedick, Richard Elliot
Washington, D.C. : World Resources Institute; 1991.
98 p. : ill. ; 26 cm. January 1991. Includes bibliographical references.

Language: English

Descriptors: Greenhouse effect, Atmospheric; Global warming

243 NAL Call No: QC879.8.H5
High accuracy standards and reference methodology for carbon dioxide in air.
Zielinski, Walter L.
Washington, D.C. : U.S. Department of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division ; Gaithersburg, Md. : National Bureau of Standards, Center for Analytical Chemistry ; Springfield, Va. : Available from NTIS; 1986.
1 v. (various pagings) ; 28 cm. June 1986. Prepared under contract no. DE-A101-76PR06010. DOE/PR-06010-31. TR033. Bibliography: p. 74.

Language: English

Descriptors: Atmospheric carbon dioxide, Standards

244 NAL Call No: GF55.M44
High and dry Mediterranean climate in the twenty-first century.
Meith, Nikki
Oceans and Coastal Areas Programme Activity Centre, United Nations Environment Programme. mediterranean Co-ordinating Unit
Athens, Greece : Mediterranean Co-ordinating Unit of Programme Activity Centre for Oceans and Coastal Areas of the United Nations Environment Programme; 1989.
48 p. : ill. (some col.), maps ; 25 cm. Cover title. May 1989. Includes bibliographical references (p. 47).

Language: English

Descriptors: Man; Human ecology; Global warming; Greenhouse effect, Atmospheric

245 NAL Call No: QC980.C55
Historical evidence and climatic implications of a shift in the boreal forest tundra transition in central Canada.
Ball, T.F.
Dordrecht : D. Reidel Pub. Co; 1986 Apr.
Climatic change v. 8 (2): p. 121-134. maps; 1986 Apr. Includes references.

Language: English

Descriptors: Canada; Tundra; Boreal forests; Treelines and timberlines; Climatic factors; Climatic change; History; Plant ecology

246 NAL Call No: 470 SCI2
How fast can trees migrate?
Roberts, L.
Washington, D.C. : American Association for the Advancement of Science; 1989 Feb10.

BEST COPY AVAILABLE

Science v. 243 (4892): p. 735-737. ill., maps; 1989 Feb10.

Language: English

Descriptors: U.S.A.; Forest trees; Dispersion; Climatic change; Temperatures; Forest ecology

Abstract: If the climate models are correct, greenhouse warming will spell doom for many forests across the United States.

247 **NAL Call No: SD390.7.G73G74**
How forest products companies can respond to rising carbon dioxide and climate change.
Sandenburgh, R.; Taylor, C.; Hoffman, J.S.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 247-257; 1987. Includes references.

Language: English

Descriptors: Forest management; Forest products industries; Decision making; Development plans; Companies; Operational control; Climatic change; Carbon dioxide

248 **NAL Call No: TD171.U5**
How it might be: air pollution.
Durman, E.C.
Washington, D.C. : Office of Public Awareness; 1989 Jan.
EPA journal v. 15 (1): p. 23-24. ill; 1989 Jan.

Language: English

Descriptors: U.S.A.; Air pollution; Climatic change; Projections; Ozone; Acid rain; Temperatures; Environmental degradation; Standards

249 **NAL Call No: TD171.U5**
How it might be: water resources.
Smith, J.E.
Washington, D.C. : Office of Public Awareness; 1989 Jan.
EPA journal v. 15 (1): p. 19-20. ill; 1989 Jan.

Language: English

Descriptors: U.S.A.; Water resources; Air pollution; Projections; Climatic change; Water availability; Temperatures; Rain; Water supplies; Water allocation; Environmental impact reporting

250 **NAL Call No: 450 AN7**
How plants respond to climate change: migration rates, individualism and the consequences for plant communities.
Huntley, B.
London : Academic Press; 1991 Jun.
Annals of botany v. 67 (suppl.1): p. 15-22; 1991 Jun.
Literature review. Includes references.

Language: English

Descriptors: Climatic change; Adaptation; Plant communities; Paleoecology; Evolution; Ecosystems; Migration; Literature reviews

Abstract: The magnitude of climate changes forecast for the next century is comparable to the magnitude of warming during the last deglaciation. No climate change of similar magnitude has occurred since that event. The palaeoecological evidence of the response, especially of plants, to past climate change indicates that evolutionary adaptation has played no more than a minor role and that migration is the usual response of organisms to climate change. The individualism of response has important implications with respect to changes in the nature of vegetation and ecosystems. The maximum realized rates of migratory response by trees, although perhaps matching the maximum potential rates, are close to the maximum that it is believed can be achieved by such long-lived sessile organisms. The rate of climate change forecast for the future is 10-100 times faster than the rate of deglacial warming. Unless steps are taken to facilitate the migratory response of organisms to the forecast changes, then widespread extinction is likely. Artificial dispersal of trees and other organisms of limited dispersal and/or migratory capacity, the general extension of the legal protection currently afforded to some threatened organisms only within designated reserves, and the integration of wildlife habitat requirements and of wildlife corridors into human landscape utilization are all likely to be necessary. Stringent measures to limit the extent of future climate change by limiting emissions of greenhouse gases will also be necessary if the possibility of widespread and even catastrophic extinction is to be avoided.

251 **NAL Call No: 292.8 W295**
Hydrologic sensitivities of the Sacramento-San Joaquin River Basin, California, to global warming.
Lettenmaier, D.P.; Gan, T.Y.
Washington, D.C. : American Geophysical Union; 1990 Jan.
Water resources research v. 26 (1): p. 69-86. maps; 1990 Jan. Includes references.

Language: English

Descriptors: California; Hydrology; River basins; Catchment hydrology; Runoff; Flooding

252 **NAL Call No: S600.6.D4**
The impact of climate change from increased atmospheric carbon dioxide on American agriculture.
Decker, Wayne L.; Jones, Vernon K.; Achutuni, Rao
United States, Dept. of Energy
Washington, D.C. : Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division, [1986?]; 1986.
v, 100 p. : ill., maps ; 28 cm. May 1986. DOE/NBB-0077. Dist. Category UC-11. TR031. Contract No. W-7405-ENG-48. Bibliography: p. 92-100.

Language: English

Descriptors: Crops and climate, United States; Atmospheric carbon dioxide; Plants, Effect of carbon dioxide on; Agricultural pollution, United States

253 **NAL Call No: S600.7.C54146**
The Impact of climatic variations on agriculture.
Parry, M. L.; Carter, T. R.; Konijn, N. T.
International Institute for Applied Systems Analysis, United Nations Environment Programme
Dordrecht ; Boston : Kluwer Academic Publishers; 1988.
2 v. : ill., maps ; 25 cm. On v. 1 and 2 t.p.: The International Institute for Applied Systems Analysis, United Nations Environment Programme. "Funding was provided by UNEP, IIASA...", Pref. Includes bibliographies and indexes.

Language: English

Descriptors: Crops and climate; Climatic changes; Meteorology, Agricultural

254 **NAL Call No: QC980.C55**
The impact of climatic variations on British economic growth, 1856-1913.
Solomou, S.
Dordrecht : D. Reidel Pub. Co; 1986 Feb.
Climatic change v. 8 (1): p. 53-67; 1986 Feb. Includes references.

Language: English

Descriptors: United Kingdom; Climatic change; Agroclimatology; Climate; Economic growth; Primary sector; Agricultural production; History

255 **NAL Call No: QH543.P76**
The impact of CO2-induced climate change on crop-yields in England and Wales.
Palutikof, J.P.; Wigley, T.M.L.; Farmer, G.
Lisse : Swets & Zeitlinger; 1984.
Progress in biometeorology v. 3: p. 320-334. maps; 1984. Paper presented at the "Symposium on Interactions between Climate and Biosphere," March 21-23, 1983, Osnabruck, West Germany. Includes references.

Language: English

Descriptors: England; Wales; Crop yield; Climatic factors; Carbon dioxide; Atmosphere; Models

256 **NAL Call No: Q11.J68**
Impact of global warming and cooling on Midwestern agriculture.
Thompson, L.M.
Cedar Falls, Iowa : The Academy; 1990 Sep.
The Journal of the Iowa Academy of Science : JIAS v. 97 (3): p. 88-90; 1990 Sep. Includes references.

Language: English

Descriptors: Illinois; Iowa; Agroclimatology; Air temperature; Climatic change; Cooling; Crop yield; Drought; Zea mays

257 **NAL Call No: S541.5.A4M57**
The impact of increased air temperature on tundra plant communities.
Chapin, F.S. III
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 143-148; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Air temperature; Tundra; Carbon dioxide; Plant communities; Nutrient cycles

258 **NAL Call No: 281.8 C16**
The impacts of climate change on agriculture in Manitoba.
Mooney, S.; Arthur, L.M.
Ottawa : Canadian Agricultural Economics and Farm Management Society; 1990 Dec.
Canadian journal of agricultural economics; Revue Canadienne d'economie rurale v. 38 (4,pt.1): p. 685-694; 1990 Dec. Paper presented at a Workshop, July 23-25, 1990, Penticton, British Co-

lumbia. Includes references.

Language: English

Descriptors: Manitoba; Climatic change; Gross margins; Crop enterprises; Crop production; Economic impact; Carbon dioxide

259 NAL Call No: S600.2.C6 1985
Impacts of possible CO2-induced climate change on agriculture.
Jones, V.K.; Achutuni, R.; Decker, W.L.
Boston : The Society; 1985.
17th Conference on Agricultural and Forest Meteorology and seventh Conference on Biometeorology and Aerobiology, May 21-24, 1985, Scottsdale, Ariz. : [preprint volume] / sponsored by the American Meteorological Society. p. 167-168; 1985. Includes references.

Language: English

Descriptors: U.S.A.; Agricultural meteorology; Climate; Carbon dioxide; Changes; Forecasting; Air pollution

260 NAL Call No: QH540.J6
Implications of a global climatic warming for agriculture: a review and appraisal.
Smit, B.; Ludlow, L.; Brklacich, M.
Madison, Wis. : American Society of Agronomy; 1988 Oct.
Journal of environmental quality v. 17 (4): p. 519-527; 1988 Oct. Includes references.

Language: English

Descriptors: Climate; Climatic change; Agriculture; Carbon dioxide; Crop yield; Agricultural production

Abstract: Recently it has been recognized that changes in the chemical composition of the atmosphere are likely to alter the earth's climate, and that these alterations may have severe implications for agriculture and other economic activities. This has stimulated research into the possible consequences of altered climatic regimes on several attributes or components of agri-food systems. Current consensus suggests that a global climatic warming, induced by increased concentrations of CO2 and other "greenhouse" gases, is likely, and hence the possible implications of warmer climates for agriculture has received considerable attention. Several analytical procedures have been employed in these studies and it is timely to assess the characteristics and achievements of these independent efforts. this paper classifies sod reviews studies that examine the implications of climatic warming for agriculture. Three approaches to assessment are recognized. Crop yield analysis identifies the effects of a specified change in climate on productivity levels for individual crops in particular locations. Spatial analysis examines the implications of climatic warming for the area and location of lands suitable for crop production. Agricultural systems analysis focuses on the relationships among components of agri-food systems. Much remains to be learned about the effects of climatic warming on agriculture. The use of existing information to develop a comprehensive analysis is hampered by differences in analytical approaches and in climatic change scenarios, and by the virtual absence of information on the possible implications of climatic change on agriculture in developing nations. Nevertheless, current evidence suggests that a warmer climate could create a more favorable environment for wheat (Triticum aestivum L.) and grain corn (Zea mays L.) in Canada, Northern Europe; and the USSR, and restrict opportunities in the USA.

261 NAL Call No: 1.90 C2OU8
Implications of global change for agriculture.
Rosenberg, N.J.
Washington, D.C. : The Department; 1990 Apr.
Outlook - Proceedings, Agricultural Outlook Conference, U.S. Department of Agriculture. p. 520-534. ill., maps; 1990 Apr.

Language: English

Descriptors: U.S.A.; Climatic change; Agricultural situation; Environmental pollution; World problems

262 NAL Call No: HD1750.W4
Implications of global climate change for western agriculture.
Adams, R.M.; McCarl, B.A.; Dudek, D.J.; Glyer, J.D.
Lincoln, Neb. : Western Agricultural Economics Association; 1988 Dec.
Western journal of agricultural economics v. 13 (2): p. 348-356; 1988 Dec. Includes references.

Language: English

Descriptors: Western states of U.S.A.; Agricultural production; Resource utilization; Climatic change; World problems; Economic impact; Irrigated farming; Carbon dioxide; Uncertainties

263 **NAL Call No: KF27.I5474 1988d**
Implications of global warming for natural resources oversight hearings before the Subcommittee on Water and Power Resources of the Committee on Interior and Insular Affairs, House of Representatives, One Hundredth Congress, second session ... hearings held September 27, 1988: Washington, DC; October 17, 1988: San Francisco, CA.
United States. Congress. House. Committee on Interior and Insular Affairs. Subcommittee on Water and Power Resources
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.In 8/14:100-58.
v, 668 p. : ill., maps ; 24 cm. Distributed to some depository libraries in microfiche. Shipping list no.: 89-395-P. Serial no. 100-58. Includes bibliographies.

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric; Climatic changes

264 **NAL Call No: 382 SO12**
Industry, agriculture and the atmosphere.
Essex : Elsevier Applied Science; 1990.
Journal of the science of food and agriculture v. 53 (3): p. 419-428. maps; 1990. Summaries of paper presented at a meeting of the Agriculture Group of the Society of Chemical Industry, January 23, 1990, London.

Language: English

Descriptors: Europe; Air pollution; Climatic change

265 **NAL Call No: QC981.8.C5I46**
The Influence of climate change and climatic variability on the hydrologic regime and water resources.
Solomon, S. I.; Beran, Max; Hogg, W. D.
International Union of Geodesy and Geophysics. General Assembly1987 :Vancouver, B.C.)
Wallingford, Oxfordshire, U.K. : International Association of Hydrological Sciences; 1987.
xiv, 640 p. : ill., maps ; 25 cm. (IAHS publication ; no. 168). Proceedings of an international symposium held during the XIXth General Assembly of the International Union of Geodesy and Geophysics at Vancouver, British Columbia, Canada, 9-22 August 1987. English and French. Includes bibliographical references.

Language: English; French

Descriptors: Climatic changes; Hydrology; Water-supply; Floods

266 **NAL Call No: QC981.I.5**
Information on selected climate and climate-change issues.
Lins, Harry F.; Sundquist, E. T.; Ager, Thomas A. Geological Survey (U.S.)
Reston, Va. : U.S. Geological Survey; 1988.
iii, 26 p. : ill., maps ; 22 x 28 cm. (Open-file report (Geological Survey (U.S.)) ; 88-718.). Bibliography: p. 26.

Language: English

Descriptors: Weather; Climatic changes; Global temperature changes; Greenhouse effect, Atmospheric

267 **NAL Call No: QC851.I57**
Institutional directory, climate-related impacts network.
National Center for Atmospheric Research (U.S.). Environmental and Societal Impacts Group
Boulder, Colo. : Environment and Societal Impacts Group, National Center for Atmospheric Research; 1985-9999.
v. ; 28 cm. Description based on: 1989.

Language: English

Descriptors: Climatology; Climatic changes

268 **NAL Call No: QH540.N3**
Interaction between UV-B radiation and other stresses in plants.
Teramura, A.H.
Berlin, W. Ger. : Springer-Verlag; 1986.
N.A.T.O. A.S.I (Advanced Study Institute) series. Series G. Ecological sciences v. 8: p. 327-343; 1986. Paper presented at the "Workshop on The Impact of Solar Ultraviolet Radiation upon Terrestial Ecosystems: 1. Agricultural Crops," Sept 27-30, 1983, Windsheim, West Germany. Includes references.

Language: English

Descriptors: Ultraviolet radiation; Ozone; Reduction; Plant damage; Stress; Species; Cultivars; Water stress; Pigments; Biomass accumulation; Photosynthesis; Growth rate

269 **NAL Call No: QK710.P55**
The interaction of rising CO2 and temperatures with water use efficiency.
Eamus, D.

Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 843-852; 1991 Oct. Literature review. Includes references.

Language: English

Descriptors: Plants; Water use efficiency; Carbon dioxide enrichment; Transpiration; Air temperature; Climatic change; Crop yield; Literature reviews

270 NAL Call No: 450 P563
Investigations on stomata and stomatal clusters in Begonia: a possible stomatal indicator of tropical seasonal climate change.
Hoover, W.S.
Corvallis, Or. : Harold N. and Alma L. Moldenke; 1988 Sep.
Phytologia v. 65 (2): P. 89-96. maps; 1988 Sep. Includes references.

Language: English

Descriptors: Mexico; Begonia nelumbiifolia; Stomata; Leaf age; Climatic change; Size; Ecotones

271 NAL Call No: KF26.A35 1989d
Joint hearing on the potential impact of global warming on the Third World joint hearing before the Committee on Agriculture, Nutrition, and Forestry, and the Subcommittee on Foreign Operations, Export Financing, and Related Programs of the Committee on Appropriations, United States Senate, One Hundred First Congress, first session : special hearing.
United States. Congress. Senate. Committee on Agriculture, Nutrition, and Forestry; United States, Congress, Senate, Committee on Appropriations, Subcommittee on Foreign Operations, Export Financing, and Related Programs
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.Ag 8/3:S.hrg.101-303.
iv, 110 p. : ill. ; 24 cm. (S. hrg. ; 101-303). "Senate hearing", Cover. "Fiscal year 1990", Cover. Distributed to some depository libraries in microfiche. Includes bibliographical references.

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric; Climatic changes; Developing countries; Forest management; United States

272 NAL Call No: 410 EC7
Large-scale patterns of forest succession as determined by remote sensing.
Hall, F.G.; Botkin, D.B.; Strebel, D.E.; Woods, K.D.; Goetz, S.J.
Tempe, Ariz. : The Society; 1991 Apr.
Ecology : a publication of the Ecological Society of America v. 72 (2): p. 628-640. plates; 1991 Apr. Includes references.

Language: English

Descriptors: Minnesota; Forest ecology; Plant succession; Remote sensing; Climatic change; Ecosystems

273 NAL Call No: QH540.N3
Lead UV optical properties of Rumex patientia L. and Rumex obtusifolius L. in regard to a protective mechanism against solar UV-B radiation injury.
Robberecht, R.; Caldwell, M.M.
Berlin, W. Ger. : Springer-Verlag; 1986.
N.A.T.O. A.S.I (Advanced Study Institute) series. Series G. Ecological sciences v. 8: p. 251-259; 1986. Paper presented at the "Workshop on The Impact of Solar Ultraviolet Radiation upon Terrestial Ecosystems: 1. Agricultural Crops," Sept 27-30, 1983, Windsheim, West Germany. Includes references.

Language: English

Descriptors: Rumex patientia; Rumex obtusifolius; Leaves; Ultraviolet radiation; Plant damage; Radiation protection; Solar radiation; Epidermis; Pigments; Radiation reflectance

274 NAL Call No: TD420.A1E5
Living in a terrarium: reflections on the Second World Climate Conference.
Phillips, V.D.
Washington, D.C. : American Chemical Society; 1991 Apr.
Environmental science & technology v. 25 (4): p. 574-578. ill; 1991 Apr. Includes references.

Language: English

Descriptors: Climatic change; Air pollution; Greenhouses; Gases; Carbon dioxide; Nitrous oxide; Methane; Plants; Photosynthesis; Air quality; Plant breeding; Selection criteria; Problem solving

275 NAL Call No: S97.R4
Long-term climate change?
Woodman, J.N.
Raleigh, N.C. : North Carolina Agricultural Re-

search Service; 1987.
Research perspectives v. 6 (1): p. 17-18. ill; 1987.

Language: English

Descriptors: Climate; Weather patterns; Emission; Carbon dioxide; Vegetation

276 **NAL Call No: QH543.P76**
Long-term effects of an increased CO2 concentration level on terrestrial plants in model-ecosystems. I. Phytomass production and competition of Trifolium repens L. and Lolium perenne L.
Overdieck, D.; Bossemeyer, D.; Lieth, H.
Lisse : Swets & Zeitlinger; 1984.
Progress in biometeorology v. 3: p. 344-352; 1984.
Paper presented at the "Symposium on Interactions between Climate and Biosphere," March 21-23, 1983, Osnabruck, West Germany. Includes references.

Language: English

Descriptors: Trifolium repens; Lolium perenne; Carbon dioxide; Concentration; Seed germination; Biomass accumulation; Competitive ability

277 **NAL Call No: Q225.17**
The making of a greenhouse policy.
Bromley, D.A.
Washington, D.C. : National Academy of Sciences; 1990.
Issues in science and technology v. 7 (1): p. 55-61; 1990.

Language: English

Descriptors: Climatic change; Research projects

278 **NAL Call No: QC879.8.M38**
Master index for the carbon dioxide research state-of-the-art report series.
Farrell, Michael P.
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, D.C. : U.S. Dept. of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division ; Springfield, Va. : Available from National Technical Information Service, U.S. Dept. of Commerce; 1987.
vii, 253 p. ; 28 cm. DOE/ER-0316. An index to six State of the Art reports: Atmospheric carbon dioxide and the global carbon cycle; Direct effects of increasing carbon dioxide on vegetation; Detecting the climatic effects of increasing carbon dioxide; Projecting the climatic effects of increasing carbon dioxide; Characterization of information requirements for studies of CO2 effects; and, Glacier, ice sheets and sea level. March 1987. Bibliography: p. 59-62.

Language: English

Descriptors: Carbon dioxide, Environmental aspects, Indexes; Atmospheric carbon dioxide, Environmental aspects, Indexes

279 **NAL Call No: 1.90 C2OU8**
The meteorological causes of drought and long-term climate patterns.
Rodenhuis, D.R.
Washington, D.C. : The Department; 1989.
Outlook - Proceedings, Agricultural Outlook Conference, U.S. Department of Agriculture (65th): p. 530-533; 1989. Meeting held November 29-December 1, 1988, Washington, D.C.

Language: English

Descriptors: North America; Drought; Meteorological factors; Climatic change; Water resources; Trends

280 **NAL Call No: QH344.G562**
Methane emission from rice cultivation: geographic and seasonal distribution of cultivated areas and emissions.
Matthews, E.; Fung, I.; Lerner, J.
Washington, D.C. : American Geophysical Union; 1991 Mar.
Global biogeochemical cycles v. 5 (1): p. 3-24. ill; 1991 Mar. Includes references.

Language: English

Descriptors: Air quality; Climatic factors; Emission; Methane; Oryza sativa; Rice soils; Seasonality; Land use

281 **NAL Call No: 292.8 J82**
Methods for evaluating the regional hydrologic impacts of global climatic changes.
Gleick, P.H.
Amsterdam : Elsevier Scientific Publishers, B.V.; 1986 Nov15.
Journal of hydrology v. 88 (1/2): p. 97-116. maps; 1986 Nov15. Includes references.

Language: English

Descriptors: Climatic change; Regional surveys; Hydrological cycle; Air pollution; Carbon dioxide;

Environmental impact reporting; Evaluation; Models

282 NAL Call No: QC981.8.G56T73
Minding the carbon store weighing U.S. forestry strategies to slow global warming.
Trexler, Mark C.
World Resources Institute
Washington, D.C. : World Resources Institute; 1991.
x, 81 p. : ill. ; 26 cm. January 1991. Includes bibliographical references (p. 59-67).

Language: English

Descriptors: Global warming; Greenhouse effect, Atmospheric

283 NAL Call No: Q225.I7
The missing data on global climate change.
Hansen, J.
Washington, D.C. : National Academy of Sciences; 1990.
Issues in science and technology v. 7 (1): p. 62-69; 1990. Includes references.

Language: English

Descriptors: Climatic change; Research projects; Satellite surveys

284 NAL Call No: QC988.A66G4
Modeling effects of vegetation on climate.
Sellers, P.J.
New York : John Wiley for the United Nations University; 1987.
The Geophysiology of Amazonia : vegetation and climate interactions / Robert E. Dickinson, editor. p. 297-339. ill., maps; 1987. Includes references.

Language: English

Descriptors: Climate; Climatic change; Interactions; Vegetation; Mathematical models; Radiation balance; Solar radiation; Aerodynamics; Canopy

285 NAL Call No: aQK751.U7 1988
Models for analysis of vegetation responses to global environmental change.
Emanuel, W.R.; Prentice, I.C.; Smith, T.M.; Shugart, H.H. Jr; Solomon, A.M.
Broomall, PA : Northeastern Forest Experiment Station, [1989?]; 1989 Sep.
Air pollution effects on vegetation, including forest ecosystems : proceedings of the Second US-USSR Symposium / edited by Reginald D. Noble, Juri L. Martin, and Keith F. Jensen. p. 251-259; 1989 Sep. Papers presented at an International Conference, September 13-25, 1988, at Corvallis, Oregon; Raleigh, North Carolina; Gatlinburg, Tennessee. Includes references.

Language: English

Descriptors: Vegetation; Climatic change; Responses; Models

286 NAL Call No: QK710.P55
Modification of the response of photosynthetic productivity to rising temperature by atmospheric CO2 concentrations: has its importance been underestimated?
Long, S.P.
Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 729-739; 1991 Oct. Includes references.

Language: English

Descriptors: Plants; Carbon dioxide enrichment; Air temperature; Climatic change; Photosynthesis; Photorespiration; Carbon dioxide; Gas exchange; Leaves; Canopy; Mathematical models

287 NAL Call No: QK710.P55
Molecular responses of plants to an increased incidence of heat shock.
Howarth, C.J.
Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 831-841; 1991 Oct. Literature review. Includes references.

Language: English

Descriptors: Pennisetum Americanum; Sorghum bicolor; Heat shock; Heat shock proteins; Protein synthesis; Heat tolerance; Genotypes; Diurnal variation; Literature reviews; Climatic change

288 NAL Call No: S541.5.A4M57
A monitoring strategy to detect carbon dioxide-induced climatic changes in the polar regions.
Weller, G.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 23-30; 1984 Mar. Includes references.

Language: English

Descriptors: Polar regions; Carbon dioxide; Climatic change; Atmosphere; Oceanography; Climatology; Monitoring

289 NAL Call No: 470 SCI2
Monitoring the fate of the forests from space.
Booth, W.
Washington, D.C. : American Association for the Advancement of Science; 1989 Mar17.
Science v. 243 (4897): p. 1428-1429. maps; 1989 Mar17.

Language: English

Descriptors: Brazil; Forests; Remote sensing; Deforestation; Ecosystems; Atmospheric disturbances; Monitoring

Abstract: Remote sensing is a powerful tool for assessing rates of deforestation and answering questions about global warming and biodiversity; so why isn't anyone doing it?

290 NAL Call No: QH545.A1E52
Mycorrhizal mediation of plant response to atmospheric change: air quality concepts and research considerations.
Shafer, S.R.; Schoeneberger, M.M.
Essex : Elsevier Applied Science; 1991.
Environmental pollution v. 73 (3/4): p. 163-177; 1991. Special issue on "Plant Response to Atmospheric Change". Includes references.

Language: English

Descriptors: Plants; Stress; Mycorrhizas; Stress response; Climatic change; Atmosphere; Gases

291 NAL Call No: KF27.S3978 1987d
The National Climate Program Act and global climate change hearings before the Subcommittee on Natural Resources, Agriculture Reseacrch, and Environment and the Subcommittee on International Scientific Cooperation of the Committee on Science, Space, and Technology, U.S. House of Representatives, One Hundredth Congress, first session, July 22, 23, 29; September 30, 1987.
United States. Congress. House. Committee on Science, Space, and Technology. Subcommittee on Natural Resources, Agriculture Research, and Environment; United States, Congress, House, Committee on Science, Space, and Technology, Subcommittee on International Scientific Cooperation
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1988; Y 4.Sci 2:100/73.
iv, 760 p. : ill., maps ; 24 cm. Distributed to some depository libraries in microfiche. No. 73, Item 1025-A-1, 1025-A-2 (microfiche). Includes bibliographies.

Language: English

Descriptors: Global temperature changes; Climatic changes; Greenhouse effect, Atmospheric; Weather control, United States; Weather control, Law and legislation, United States

292 NAL Call No: KF26.F55 1988
National Energy Policy Act of 1988 and global warming hearings before the Committee on Energy and Natural Resources, United States Senate, One Hundredth Congress, second session, on S. 2667 ... August 11, September 19 and 20, 1988.
United States. Congress. Senate. Committee on Energy and Natural Resources
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.En 2:S.hrg.100-923.
iii, 543 p. : ill., maps ; 24 cm. (S. hrg. ; 100-923). Distributed to some depository libraries in microfiche. Includes bibliographies.

Language: English

Descriptors: Global temperature changes; Atmospheric carbon dioxide, United States; Environmental protection, United States

293 NAL Call No: KF26.C69 1989
National Global Change Research Act of 1989 hearing before the Committee on Commerce, Science, and Transportation, United States Senate, One Hundred First Congress, first session, on S. 169 ... February 22, 1989.
United States. Congress. Senate. Committee on Commerce, Science, and Transportation
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.C 73/7:S.hrg.101-32.
iii, 185 p. : ill., maps ; 24 cm. (S. hrg. ; 101-32). Cover title. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Research; Greenhouse effect, Atmospheric; Research; Ozone layer depletion; Research; Global temperature changes; Research; Global warming; Research; Environmental law; United States

294 NAL Call No: QC981.8.C5N38
Natural areas facing climate change.
Malanson, George Patrick,
The Hague, The Netherlands : SPB Academic

Pub.; 1989.
92 p. : ill., maps ; 22 cm. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Climatology

295 **NAL Call No: HM208.E5**
Natural resources: greenhouse gases, climate change, and U.S. forest markets.
Regens, J.L.; Cubbage, F.W.; Hodges, D.G.
Washington, D.C. : Heldref Publications; 1989 May.
Environment v. 31 (4): p. 4-5, 41; 1989 May. Includes references.

Language: English

Descriptors: Great basin and pacific slope; South eastern states of U.S.A.; Pinus taeda; Pseudotsuga menziesii; Forest products industries; Forest management; Air pollution; Gases; Carbon dioxide; Climatic change

296 **NAL Call No: QH543.P76**
Net primary production deduced with the Hamburg model from climate change predictions with GCMs for elevated CO2 scenarios.
Lieth, H.
Lisse : Swets & Zeitlinger; 1984.
Progress in biometeorology v. 3: p. 335-343. maps; 1984. Paper presented at the "Symposium on Interactions between Climate and Biosphere," March 21-23, 1983, Osnabruck, West Germany. Includes references.

Language: English

Descriptors: Carbon dioxide; Atmosphere; Temperatures; Precipitation; Prediction; Models; Biological production

297 **NAL Call No: S605.5.O74**
New hardiness zone map.
Damsker, M.
Emmaus, Pa. : Rodale Press, Inc; 1990 Mar.
Organic gardening v. 37 (3): p. 85-84. maps; 1990 Mar.

Language: English

Descriptors: U.S.A.; Maps; Plants; Hardiness; Climatic change; Zoning; Usda

298 **NAL Call No: 292.8 W295**
A new method to determine regional evapotranspiration.
Magaritz, M.; Kaufman, A.; Paul, M.; Boaretto, E.; Hollos, G.
Washington, D.C. : American Geophysical Union; 1990 Aug.
Water resources research v. 26 (8): p. 1759-1762. maps; 1990 Aug. Includes references.

Language: English

Descriptors: Jordan; Evapotranspiration; Soil water recharge; Water reservoirs; Chlorides; Radionuclides; Precipitation; Climatic change; Hydrological cycle; Hydrological models; River basins

Abstract: A method is described whereby the chloride concentration and the ratio of 36Cl to total chloride of a given water body are compared with those of precipitation to determine the fraction of the original precipitation which was lost by evapotranspiration before it reached that water body. This method was applied to 11 water sources in the upper Jordan River basin, and the evapotranspirative loss was generally found to be in the range 40-90%. This method, which is much simpler than the other methods for determining regional evapotranspiration, will enable us to monitor the changes in the hydrological cycle which are expected to result from the greenhouse effect.

299 **NAL Call No: S541.5.A4M57**
Observed and predicted effects of climate change on Wolverine Glacier, Southern Alaska.
Mayo, L.R.; Trabant, D.C.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 114-123. maps; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Climatic change; Glaciology; Carbon dioxide; Hydrology; Air temperature

300 **NAL Call No: QH543.P76**
One-dimensional modelling of man's impacts on climate.
Tricot, C.
Lisse : Swets & Zeitlinger; 1984.
Progress in biometeorology v. 3: p. 91-100. ill; 1984. Paper presented at the "Symposium on Interactions between Climate and Biosphere," March 21-23, 1983, Osnabruck, West Germany. Includes references.

Language: English

Descriptors: Human activity; Climate; Models; Carbon dioxide; Concentration; Temperatures

301 NAL Call No: QC981.8.C5F42
Our changing planet the FY 1990 research plan : executive summary : the U.S. Global Change Research Program : a report. (Executive summary: the U.S. global change research program U.S. Global Change Research Program.)
Peck, Dallas L.
Federal Coordinating Council for Science, Engineering, and Technology. Committee on Earth Sciences
Washington, D.C. : The Committee; 1989.
ii, 43 p. : ill. ; 23 cm. Committee chairman: Dallas Peck. July 1989.

Language: English

Descriptors: Climatic changes; Research; United States; Climatic changes; Research; Government policy; United States; Earth; Research; United States; Earth; Research; Government policy; United States; Geodynamics; Research; United States; Geodynamics; Research; Government policy; United States; Earth sciences; United States; Earth sciences; Government policy; United States; Earth sciences; United States; Earth sciences; Government policy; United States

302 NAL Call No: QC981.8.C5F421
Our changing planet the FY 1990 research plan : the U.S. Global Change Research Program : a report. (U.S. Global Change Research Program.)
Peck, Dallas L.
Federal Coordinating Council for Science, Engineering, and Technology. Committee on Earth Sciences
Washington, D.C. : The Committee; 1989.
1 v. (various pagings) : ill. ; 28 cm. Committee chairman: Dallas Peck. July 1989.

Language: English

Descriptors: Climatic changes; Research; United States; Climatic changes; Research; Government policy; United States; Earth; Research; United States; Earth; Research; Government policy; United States; Geodynamics; Research; United States; Geodynamics; Research; Government policy; United States

303 NAL Call No: QC881.2.S8O97
Ozone depletion, greenhouse gases, and climate change proceedings of a joint symposium by the Board on Atmospheric Sciences and Climate and the Committee on Global Change, Commission on Physical Sciences, Mathematics, and Resources, National Research Council.
National Research Council (U.S.), Board on Atmospheric Sciences and Climate, National Research Council (U.S.), Committee on Global Change
Joint Symposium on Ozone Depletion, Greenhouse Gases, and Climate Change 1988 : National Academy of Sciences.
Washington, D.C. : National Academy Press; 1989.
xiv, 122 p. : ill. ; 23 cm. "Proceedings of the Joint Symposium on Ozone Depletion, Greenhouse Gases, and Climate Change, held at the National Academy of Sciences, March 23, 1988", P. xi. Includes bibliographies and index.

Language: English

Descriptors: Stratospheric ozone; Reduction; Congresses; Climatic changes; Congresses; Greenhouse effect, Atmospheric; Congresses

304 NAL Call No: RA569.8.O9
Ozone depletion health and environmental consequences.
Russell Jones, Robin; Wigley, T.
International Conference on the Health and Environmental Consequences of Stratospheric Ozone Depletion 1988 : Royal Institute of British Architects.
Chichester ; New York : Wiley ; New York, NY, USA : Distributed in the USA, Canada, and Japan by A.R. Liss; 1989.
xix, 280 p. : ill. ; 24 cm. "Proceedings of an International Conference on the Health and Environmental Consequences of Stratospheric Ozone Depletion, held at the Royal Institute of British Architects, London, on November 28-29, 1988", Pref. Includes bibliographical references.

Language: English

Descriptors: Ozone layer depletion; Health aspects; Congresses; Ozone layer depletion; Environmental aspects; Congresses; Greenhouse effect, Atmospheric; Congresses, Chlorofluorocarbons; Congresses; Global warming; Congresses

305 NAL Call No: KF26.E645 1986a
Ozone depletion, the greenhouse effect, and climate change hearings before the Subcommittee on Environmental Pollution of the Committee on Environment and Public Works, United States Senate, Ninety-ninth Congress, second session,

June 10 and 11, 1986.
United States. Congress. Senate. Committee on Environment and Public Works. Subcommittee on Environmental Pollution
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1986.
iv, 326 p. : ill., maps ; 24 cm. (S. hrg. ; 99-723). Distributed to some depository libraries in microfiche. Shipping list no.: 86-731-P. Includes bibliographies.

Language: English

Descriptors: Atmospheric ozone, Reduction, Government policy, United States; Greenhouse effect, Atmospheric, United States; Climatic changes, United States

306 **NAL Call No: TD171.U5**
Part of the problem and part of the answer.
Postel, S.
Washington, D.C. : Office of Public Awareness; 1989 Jan.
EPA journal v. 15 (1): p. 44-46. ill; 1989 Jan.

Language: English

Descriptors: U.S.A.; Air pollution; Problem solving; Forest policy; Afforestation; Carbon dioxide; Deforestation; Environmental impact reporting; Ecosystems; Climatic change

307 **NAL Call No: QH301.P535**
Photosynthesis and plant productivity, scaling to the biosphere.
Mooney, H.A.; Field, C.B.
New York, N.Y. : Alan R. Liss; 1989.
Plant biology v. 8: p. 19-44; 1989. In the series analytic: Photosynthesis / edited by W.R. Briggs. Proceedings of the C.S. French Symposium, July 17-23, 1988, Stanford, California. Literature review. Includes references.

Language: English

Descriptors: Photosynthesis; Biomass; Carbon cycle; Carbon dioxide; Ecosystems; Meteorology; Plant metabolism; Vegetation types; Literature reviews

308 **NAL Call No: 472 N21**
Photosynthesis seen from above.
Warrick, R.A.
Neptune, N.J. : Macmillan Journals; 1986 Jan16.
Nature v. 319 (6050): p. 181; 1986 Jan16. Includes 8 references.

Language: English

Descriptors: Climatic change; Vegetation; Remote sensing; Carbon dioxide; Atmosphere; Monitoring; Models

309 **NAL Call No: QK710.P55**
Physiology of inorganic C acquisition and implications for resource use efficiency by marine phytoplankton: relation to increased CO2 and temperature.
Raven, J.A.
Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 779-794; 1991 Oct. Literature review. Includes references.

Language: English

Descriptors: Phytoplankton; Carbon dioxide; Diffusion; Transport processes; Cell membranes; Photosynthesis; Ribulose-bisphosphate carboxylase; Enzyme activity; Carbon dioxide enrichment; Temperature; Sea water; Marine environment; Literature reviews

310 **NAL Call No: SB191.W5L9 1974**
Plans for wheat/climate-change research.
Sakamoto, C.
Houston, Tex. : Natl Aeronautics and Space Adm, Lyndon B. Johnson Space Center; 1975.
Proceedings of the 1974 Lyndon B. Johnson Space Center Wheat-Yield Conference. p. 2/1-2/4; 1975. (NASA TM ; X-58158).

Language: English

Descriptors: Planning of research; Models; Triticum; Crop yield; Climatic change; Cultivation; Areas; Agricultural meteorology

311 **NAL Call No: SB123.3.C57**
Plant genetic resources, a perspective.
Jackson, M.T.; Ford-Lloyd, B.V.
New York : Belhaven Press; 1990.
Climatic change and plant genetic resources / edited by M.T. Jackson, B.V. Ford-Lloyd, M.L. Parry. p. 1-17; 1990. Includes references.

Language: English

Descriptors: Climatic change; Air temperature; Carbon dioxide; Crops; Diversity; Genetic resources; Resource conservation

312 **NAL Call No: QH545.A1E52**
Plant response to atmospheric change: introduc-

tion.
Schoeneberger, M.M.; Shafer, S.R.
Essex : Elsevier Applied Science; 1991.
Environmental pollution v. 73 (3/4): p. 159-161; 1991. Special issue on "Plant Response to Atmospheric Change". Includes references.

Language: English

Descriptors: Mycorrhizas; Climatic change

313 **NAL Call No: QH540.J6**
Plant responses to rising carbon dioxide and potential interactions with air pollutants.
Allen, L.H. Jr
Madison, Wis. : American Society of Agronomy; 1990 Jan.
Journal of environmental quality v. 19 (1): p. 15-34; 1990 Jan. Literature review. Includes references.

Language: English

Descriptors: Plants; Plant damage; Stress response; Air pollution; Carbon dioxide; Climatic change; Photosynthesis; Transpiration; Leaf area; Biomass accumulation; Sulfur dioxide; Ozone

Abstract: As global population increases and industrialization expands, carbon dioxide (CO2) and toxic air pollutants can be expected to be injected into the atmosphere at increasing rates. This analysis reviews a wide range of direct plant responses to rising CO2, increasing levels of gaseous pollutants, and climate change, and to potential interactions among the factors. Although several environmental interactions on stomata and foliage temperatures are reviewed briefly, a comprehensive review of effects of potential climatic change on plants is not a major objective of this analysis. Research shows that elevated CO2 increases photosynthetic rates, leaf area, biomass, and yield. Elevated CO2 also reduces transpiration rate per unit leaf area, but not in proportion to reduction of stomatal conductance, because foliage temperature tends to rise. With increasing leaf area and foliage temperature, water use per unit land area is scarcely reduced by elevated CO2. Increases in photosynthetic water-use efficiency are caused primarily by increased photosynthesis rather than reduced transpiration. Gaseous pollutants (O3, SO2, NO2, H2S) affect plants adversely primarily by entry through the stomata. An example calculation showed that reduction in stomatal conductance by doubled CO2 could potentially reduce the effects of ambient O3 and SO2 by 15%. However, information on the interaction of CO2 and air pollutants is scanty. More research is needed on these interactions, because regional changes in air pollutants are occurring concurrently with global changes in CO2.

314 **NAL Call No: aS21.A8U5/ARS**
Point storm disaggregation, seasonal and regional effects.
Woolhiser, D.A.; Osborn, H.B.
Washington, D.C. : The Service; 1985.
Reprints - U.S. Department of Agriculture, Agricultural Research Service [76]: 16 p.; 1985. Includes references.

Language: English

Descriptors: Arizona; Climatic change; Rain; Regions; Runoff; Seasonal variation; Simulation models; Watershed management

315 **NAL Call No: QC981.8.C5N32**
The polar regions and climatic change.
National Research Council (U.S.). Committee on the Role of the Polar Regions in Climatic Change
Washington, D.C. : National Academy Press ; [available from Polar Research Board]; 1984.
xiv, 59 p. ; 23 cm. Bibliography: p. 54-59.

Language: English

Descriptors: Climatic changes; Polar regions

316 **NAL Call No: QC981.8.C5N3212**
The polar regions and climatic change appendix.
National Research Council (U.S.). Committee on the Role of the Polar Regions in Climatic Change
Washington, D.C. : National Academy Press ; [available from Polar Research Board]; 1984.
xi, 113 p. : ill. maps ; 23 cm. Cover title. Includes bibliographies.

Language: English

Descriptors: Polar regions; Climatic changes

317 **NAL Call No: KF26.E647 1989**
Policy options for stabilizing global climate hearing before the Subcommittee on Environmental Protection of the Committee on Environment and Public Works, United States Senate, One Hundred First Congress, first session, March 17, 1989.
United States. Congress. Senate. Committee on Environment and Public Works. Subcommittee on Environmental Protection
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S.

G.P.O.; 1989; Y 4.P 96/10:S.hrg.101-31.
iii, 69 p. : ill. ; 24 cm. (S. hrg. ; 101-31). Distributed to some depository libraries in microfiche.

Language: English

Descriptors: Global temperature changes; Greenhouse effect, Atmospheric; Climatic changes

318 NAL Call No: QC981.8.C5P6
Policy options of adaptation to climate change a study from Resources for the Future, Climate Resources Program.
Rosenberg, Norman J.,
Resources for the Future, Climate Resources Program
Washington, D.C. : Energy and Natural Resources Division, Resources for the Future; 1989.
45, 7 p. ; 28 cm. (Discussion paper (Resources for the Future) ; ENR 89-05.). March 1989. Chapter 8 of a report to the Governing Board of the United Nations Environmental Programme (UNEP). Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Government policy; Greenhouse effect, Atmospheric; Government policy; Environmental policy

319 NAL Call No: SD143.S64
Pollution and a changing climate, implications for world forests.
Woodman, J.N.
Bethesda, Md. : The Society; 1986.
Proceedings of the...Society of American Foresters National Convention. p. 29-33; 1986.

Language: English

Descriptors: Forests; Air pollution; Climate; Forest damage; Carbon dioxide; Temperatures

320 NAL Call No: 340.8 AM32
Possibilities of major climatic modification and their implications: northwest India, a case for study.
Bryson, R.A.; Baerreis, D.A.
Lancaster, Pa. : The Society :.; 1967 Mar.
Bulletin of the American Meteorological Socoiety v. 48 (3): p. 136-142. ill., maps; 1967 Mar. Includes references.

Language: English

Descriptors: India; Pakistan; Deserts; Dusts; Arid climate; Climatic change; Desertification; Archaeology

321 NAL Call No: S541.5.A4M57
Possible effects of a global warming on Arctic sea ice, precipitation, and carbon balance.
Kellogg, W.W.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 59-66. maps; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Carbon dioxide; Arctic regions; Climatic change; Environmental temperature; Arctic tundra

322 NAL Call No: 442.8 AN72
Possible impact of global warming on cabbage root fly (Delia radicum) activity in the UK.
Collier, R.H.; Finch, S.; Phelps, K.; Thompson, A.R.
Warwick : Association of Applied Biologists; 1991 Apr.
Annals of applied biology v. 118 (2): p. 261-271; 1991 Apr. Includes references.

Language: English

Descriptors: Uk; Delia radicum; Developmental stages; Diapause; Oviposition; Climatic change; Temperature; Simulation models

323 NAL Call No: 99.8 F767
Possible impacts of climatic warming on trees and forests in the United Kingdom: a review.
Cannell, M.G.R.; Grace, J.; Booth, A.
London : Oxford University Press; 1989.
Forestry : The journal of the Institute of Chartered Foresters v. 62 (4): p. 337-364. maps; 1989. Literature review. Includes references.

Language: English

Descriptors: United Kingdom; Forestry; Climatic change; Growth; Yields; Carbon dioxide; Forest soils; Soil temperature

324 NAL Call No: 281.8 C16
Potential adjustments to climatic change.
Arthur, L.M.
Ottawa : Canadian Agricultural Economics and Farm Management Society; 1990 Dec.
Canadian journal of agricultural economics; Revue Canadienne d'economie rurale v. 38 (4,pt.1): p. 711-716; 1990 Dec. Paper presented at a Workshop, July 23-25, 1990, Penticton, British Co-

lumbia. Includes references.

Language: English

Descriptors: Climatic change; Prevention; Environmental protection; Adaptability

325 NAL Call No: TD885.5.C3R5
Potential climatic impacts of increasing atmospheric CO2 with emphasis on water availability and hydrology in the United States report.
Rind, David; Lebedeff, Sergej
Goddard Institute for Space Studies, United States, Environmental Protection Agency, Office of Policy, Planning, and Evaluation, Strategic Studies Staff
Washington, D.C.? : U.S. Environmental Protection Agency, Strategic Studies Staff, Office of Policy Analysis, Office of Policy Planning and Evaluation; 1984; EP 1.2:C 61/2.
x, 96 leaves : ill., 3 maps ; 28 cm. April 1984. Cover title. EPA 230-04-84-006. DE85 901081. Bibliography: p. 94-96.

Language: English

Descriptors: Atmospheric carbon dioxide, United States, Measurement, Testing; Precipitation forecasting, United States

326 NAL Call No: QC980.C55
Potential CO2-induced climate effects on North American wheat-producing regions.
Rosenzweig, C.
Dordrecht : D. Reidel Pub. Co; 1985 Dec.
Climatic change v. 7 (4): p. 367-389. ill., maps; 1985 Dec. Includes references.

Language: English

Descriptors: North America; Carbon dioxide; Climatic change; Agroclimatic regions; Wheat; Crop production; Mapping; Simulation models

327 NAL Call No: S541.5.A4M57
The potential effects of carbon dioxide-induced climate changes in Alaska: conclusions and recommendations.
McBeath, J.H.; Weller, G.; Juday, G.P.; Osterkamp, T.E.; Neve, R.A.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 193-196; 1984 Mar.

Language: English

Descriptors: Alaska; Carbon dioxide; Climatic change; Projections; Climatic zones

328 NAL Call No: HD1750.W4
Potential effects of climate change on agriculture in the prairie region of Canada.
Arthur, L.M.; Abizadeh, F.
Lincoln, Neb. : Western Agricultural Economics Association; 1988 Dec.
Western journal of agricultural economics v. 13 (2): p. 216-224; 1988 Dec. Includes references.

Language: English

Descriptors: Canada; Agroclimatology; Carbon dioxide; Crop yield; Prairies; Climatic change; Simulation models

329 NAL Call No: NBULD3656 1991 K566
Potential effects of climate change on milk production and conception rate in dairy cattle in the United States and western Europe. (University of Nebraska, Lincoln thesis : Agronomy.)
Klinedinst, Peggy Lea
1991; 1991.
70 leaves ; 28 cm. Includes bibliographical references.

Language: English

330 NAL Call No: SD13.C35
Potential effects of climate change on stand development in the Pacific Northwest.
Dale, V.H.; Franklin, J.F.
Ottawa, Ont. : National Research Council of Canada; 1989 Dec.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 19 (12): p. 1581-1590. maps; 1989 Dec. Includes references.

Language: English

Descriptors: Oregon; Washington; British Columbia; Climatic change; Stand development; Carbon dioxide; Simulation models; Ecosystems; Forest succession

331 NAL Call No: QK710.P55
Potential effects of elevated CO2 and changes in temperature on tropical plants.
Hogan, K.P.; Smith, A.P.; Ziska, L.H.
Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 763-778; 1991 Oct. Literature review. Includes references.

Language: English

Descriptors: Plants; Tropics; Carbon dioxide enrichment; Air temperature; Climatic change; Photosynthesis; Growth rate; Drought; Water use efficiency; Transpiration; Water stress; Literature reviews; Tropical zones

332 **NAL Call No: QC981.8.C5P671**
The Potential effects of global climate change on the United States [appendices].
Smith, Joel B.; Tirpak, Dennis A.
Washington, D.C. : Office of Policy, Planning and Evaluation, U.S. Environmental Protection Agency; 1989.
10 v. : ill., maps ; 28 cm. May 1989. "Policy, planning and evaluation (PM-221)", Cover. "EPA-230-05-89-051 - EPA-230-05-89-060, June 1989", Cover. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Climatic changes; Global warming; Greenhouse effect, Atmospheric

333 **NAL Call No: S541.5.A4M57**
Potential impact of a warmer climate on permafrost in Alaska.
Osterkamp, T.E.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 106-113. ill; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Permafrost; Carbon dioxide; Climatic change; Environment; Topography; Mathematical models

334 **NAL Call No: SD390.7.G73G74**
Potential impact of carbon dioxide-induced climate changes on management of Douglas-fir and western hemlock.
Woodman, J.N.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 277-283; 1987.

Language: English

Descriptors: U.S.A.; Tsuga heterophylla; Pseudotsuga menziesii; Climatic change; Carbon dioxide; Silvicultural systems; Forest management; Decision making

335 **NAL Call No: KF26.A35 1988d**
The potential impact of global warming on agriculture hearing before the Committee on Agriculture, Nutrition, and Forestry, United States Senate, One Hundredth Congress, second session ... December 1, 1988.
United States. Congress. Senate. Committee on Agriculture, Nutrition, and Forestry
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1989; Y 4.Ag 8/3:S.hrg.100-980.
iv, 108 p. : ill., maps ; 23 cm. (S. hrg. ; 100-980). Distributed to some despository libraries in microfiche. Bibliography: p. 33.

Language: English

Descriptors: Crops and climate, United States; Meteorology, Agricultural; Greenhouse effect, Atmospheric

336 **NAL Call No: S541.5.A4M57**
Potential impact on the arts in Alaska of carbon dioxide-induced climate change.
Woodward, K.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 178-183; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Landscape; Climatic change; Snow cover; Economic impact; Arts

337 **NAL Call No: S601.A34**
Potential impacts of a CO2-induced climate change using the GISS scenario on agriculture in Quebec, Canada.
Singh, B.; Stewart, R.B.
Amsterdam : Elsevier; 1991 May.
Agriculture, ecosystems and environment v. 35 (4): p. 327-347; 1991 May. Includes references.

Language: English

Descriptors: Quebec; Cereals; Oilseeds; Climatic change; Carbon dioxide; Dry matter; Biomass; Crop yield; Simulation models; Agricultural production; Agricultural regions

338 **NAL Call No: 58.9 IN7**
Potential impacts of climatic change in the UK.
Parry, M.
Silsoe : Institution of Agricultural Engineers; 1989.
The Agricultural engineer v. 44 (4): p. 124-125.

maps; 1989. Includes references.

Language: English

Descriptors: Uk; Climatic change; Crop production; Temperature; Rain; Location of production; Weeds; Diseases; Pests

339 NAL Call No: 292.9 C1282
Potential implications of global warming for California's water supply.
Dracup, J.A.; Kendall, D.R.
Riverside, Calif. : The Center; 1990 May.
Report - California Water Resources Center, University of California (72): p. 73-77; 1990 May. Proceedings: Coping with Water Scarcity: The Role of Ground Water. Paper presented at the "Seventeenth Biennial Conference on Ground Water, September 25-26, 1989, San Diego, California. Includes references.

Language: English

Descriptors: California; Water resources; Climatic change; Water supply

340 NAL Call No: S541.5.A4M57
Potential responses of permafrost to climatic warming.
Goodwin, C.W.; Brown, J.; Outcalt, S.I.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 92-105. maps; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Permafrost; Carbon dioxide; Climatic change; Simulation models; Computer software; Air temperature

341 NAL Call No: SB123.3.C57
Predicted climate changes under 'greenhouse-gas' warming.
Rowntree, P.R.
New York : Belhaven Press; 1990.
Climatic change and plant genetic resources / edited by M.T. Jackson, B.V. Ford-Lloyd, M.L. Parry. p. 18-33; 1990. Includes references.

Language: English

Descriptors: Climatic change; Air quality; Air temperature; Carbon dioxide; Gases; Soil water; Weather data

342 NAL Call No: SD390.7.G73G74
Predicting regional climate change: improving the models.
Rind, D.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 77-90. maps; 1987. Includes references.

Language: English

Descriptors: Climatic change; Models; Prediction; Atmosphere; Carbon dioxide; Thermal radiation; World problems

343 NAL Call No: QH541.15.M3E25
Predicting the response of plants to increasing carbon dioxide: a critique of plant growth models.
Reynolds, J.F.; Acock, B.
Amsterdam : Elsevier; 1985 Sep.
Ecological modelling v. 29 (1/4): p. 107-129. ill; 1985 Sep. Includes references.

Language: English

Descriptors: Plants; Carbon dioxide; Growth; Vegetation; Models; Evaluation criteria

344 NAL Call No: GB746.W33
Predictive estimation of natural groundwater resources in the near future.
Kovalevskii, V.S.; Maksimova, N.G.
New York, N.Y. : Consultants Bureau; 1989 Jan.
Water resources v. 15 (2): p. 133-139. maps; 1989 Jan. Translated from Vodnye Resursy, v. 15 (2), March-April, 1988, p. 41-49. (GB746.V55). Includes references.

Language: English; Russian

Descriptors: U.S.S.R.in europe; Groundwater; Water resources; Prediction; Estimation; Climatic change; Runoff water; Precipitation; Air temperature; Groundwater recharge

345 NAL Call No: 500 AM322A
Preparing for climate change.
Tangley, L.
Washington, D.C. : The Institute; 1988.
BioScience - American Institute of Biological Sciences v. 38 (1): p. 14-18. ill; 1988.

Language: English

Descriptors: Climatic change; Carbon dioxide; Drought; Adaptation; Agriculture; Forestry; Fisheries

346 **NAL Call No: QC981.8.C5N67 1987**
Preparing for climate change proceedings of the First North American Conference on Preparing for Climate Change, a cooperative approach : October 27-29, 1987, Washington, D.C.
Climate Institute (Washington, D.C.)
North American Conference on Preparing for Climate Change 1st : 1987 : Washington, D.C.
Rockville, Md. : Government Institutes; 1988.
xiv, 516 p. : ill. ; 28 cm. "April 1988", T.p. verso. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Congresses; Climatic changes; North America; Congresses

347 **NAL Call No: Q225.I7**
Preventing climate change.
Schneider, C.
Washington, D.C. : National Academy of Sciences; 1989.
Issues in science and technology v. 5 (4): p. 55-62; 1989. Includes references.

Language: English

Descriptors: Climatic change; Air pollutants; Carbon dioxide; Methane; Deforestation; Afforestation; Forest influences

348 **NAL Call No: QC981.8.C5R67**
A primer on climatic change mechanisms trends and projections.
Rosenberg, Norman J.,
Resources for the Future, Renewable Resources Division
Washington, D.C. : Renewable Resources Division, Resources for the Future; 1986.
67, 7 p. ; 28 cm. (Discussion paper series (Resources for the future. Renewable Resources Division) ; no. RR86-04.). "August 1986. Includes bibliographical references (p. 57-66).

Language: English

Descriptors: Climatic changes

349 **NAL Call No: QC879.8.C372 1980**
Proceedings of the Carbon Dioxide and Climate Research Program Conference, Washington, DC, April 24-25, 1980.
Schmitt, Lois E.
United States, Dept. of Energy, Office of Health and Environmental Research, Oak Ridge Associated Universities, Institute for Energy Analysis
Carbon Dioxide and Climate Research Program Conference 1980 : Washington, D.C.
Washington, D.C. : U.S. Dept. of Energy, Assistant Secretary for Environment, Office of Health and Environmental Research ; Springfield, Va. : Available from National Technical Information Service; 1980; E 1.10-8004110.
xviii, 287 p. : ill. ; 28 cm. (Carbon Dioxide Effects Research and Assessment Program ; 011). December 1980. Contract no. DE-AC05-760R00033. CONF-8004110. Includes bibliographies.

Language: English

Descriptors: Atmospheric carbon dioxide, Environmental aspects, Congresses; Climatology, Congresses

350 **NAL Call No: QC879.8.I57 1979**
Proceedings of the International Meeting on Stable Isotopes in Tree-Ring Research New Paltz, N.Y., May 22-25, 1979.
Jacoby, Gordon
Lamont-Doherty Geological Observatory, United States, Dept. of Energy, Office of the Assistant Secretary for Environment, United States, Dept. of Energy, Office of Health and Environmental Research
International Meeting on Stable Isotopes in Tree-Ring Research 1979 : New Paltz, N.Y.
Washington, D.C. : U.S. Dept. of Energy, Assistant Secretary for Environment, Office of Health and Environmental Research ; Springfield, Va. : Available from National Technical Information Service; 1980; E 1.10-790518.
iii, 150 p. : ill. ; 28 cm. (Carbon Dioxide Effects Research and Assessment Program ; 012). December 1980. CONF-7905180. "CONF-790518", Cover. Includes bibliographies.

Language: English

Descriptors: Atmospheric carbon dioxide, Environmental aspects, Congresses; Climatology, Congresses; Isotopes

351 **NAL Call No: QC981.8.C5S95 1987**
Proceedings of the Symposium on Climate Change in the Southern United States future impacts and present policy issues : May 28-29, 1987, New Orleans, Louisiana.
Meo, Mark
University of Oklahoma, Science and Public Policy Program, United States, Environmental Protection Agency, Office of Policy, Planning, and Evaluation
Symposium on Climate Change in the Southern

United States 1987 : New Orleans, La.
S.l. : s.n.; 1987.
vi, 608 p. : ill. ; 28 cm. November 1987. "Addendum to list of attendees" inserted. "Conducted by the Science and Public Policy Program, University of Oklahoma; sponsored by the U.S. Environmental Protection Agency, Office of Policy, Planning, and Evaluation.", Cover. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Southern States; Congresses; Environmenal policy; Southern States; Congresses

352 **NAL Call No: QC879.8.P76**
Projecting the climatic effects of increasing carbon dioxide.
MacCracken, Michael C.; Luther, F. M.
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, D.C. : U.S. Dept. of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division; 1985.
xxv, 381 p. : ill. ; 28 cm. DOE/ER-0237. December 1985. Dist. Category UC-11. Includes bibliographies and indexes.

Language: English

Descriptors: Atmospheric carbon dioxide; Mathematical models; Climatic changes; Mathematical models

353 **NAL Call No: QC879.8.M37**
The prospect of solving the CO2 problem through global reforestation.
Marland, Gregg
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, D.C. : U.S. Dept. of Energy ; Springfield, Va. : Available from the National Technical Information Service, U.S. Dept. of Commerce; 1988.
ix, 66 p. : ill. ; 28 cm. "Prepared for United States Department of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division under Contract No. DE-AC05-76OR00033, DE-AC05-84OR21400", Cover. February 1988. TRO39. Under contract no. DE-AC05-76OR00033, DE-AC05-OR21400. Bibliography: p. 60-66.

Language: English

Descriptors: Atmospheric carbon dioxide; Reforestation

354 **NAL Call No: QC981.8.C5P7**
Prospects for future climate a special US/USSR report on climate and climate change.
MacCracken, Michael C.
Chelsea, Mich. : Lewis Publishers; 1990.
xiii, 270 p. : ill. ; 24 cm. Prepared under the auspices of the US/USSR agreement on protection of the environment. Includes bibliographical references (p. 235-267).

Language: English

Descriptors: Climatic changes; Climatology

355 **NAL Call No: TD885.5.O85C52**
Protecting the ozone layer what you can do : a citizens' guide to reducing the use of ozone depleting chemicals.
Clark, Sarah L.
Environmental Information Exchange
New York, NY (257 Park Avenue South, New York, NY 10010) : Environmental Information Exchange, Environmental Defense Fund; 1988.
33 p. : ill. ; 21 cm. Bibliography: p. 30-31.

Language: English

Descriptors: Ozone layer depletion; Atmospheric ozone; Reduction; Environmental protection; United States; Citizen participation

356 **NAL Call No: QK477.2.A615 1986**
Radiodensitometric tree-ring analysis along altitudinal gradients: some alternative procedures for detecting site, climatic, and potential CO2 effects on tree growth.
Kienast, F.
Washington, DC : U.S. Department of Energy, Office of Energy Research; 1987 Apr.
Proceedings of the International Symposium on Ecological Aspects of Tree-Ring Analysis / compiled by G.C. Jacoby, J.W. Hornbeck. p. 452-462; 1987 Apr. Includes references.

Language: English

Descriptors: Switzerland; Colorado; Cyprus; Coniferae; Forest trees; Growth rings; Growth; Environmental factors; Site factors; Carbon dioxide; Altitudinal zonation

357 **NAL Call No: QC981.8.C5U5**
Recommendations from an interdisciplinary forum on data management for global change, Baltimore, Maryland, November 2-4, 1988. (Data

management for global change.)
Unninayar, Sushil; Ruttenberg, Stan
United States, Interagency Working Group on Data Management for Global Change, University Corporation for Atmospheric Research, Office for Interdisciplinary Earth Studies
Boulder, CO : Office for Interdisciplinary Earth Studies, University Corporation for Atmospheric Research; 1990.
[vii], 75 p. : ill. ; 28 cm. (Report OIES ; 5). Sponsored by the Interagency Working Group on Data Management for Global Change of the Committee on Earth Sciences. March 1990.

Language: English

Descriptors: Climatic changes

358 **NAL Call No: 472 N21**
Reconstruction of tree-line vegetation response to long-term climate change.
Payette, S.; Filion, L.; Delwaide, A.; Begin, C.
London : Macmillan Magazines Ltd; 1989 Oct.
Nature v. (341) (6241): p. 429-432; 1989 Oct. Includes references.

Language: English

Descriptors: Canada; Picea mariana; Betula glandulosa; Climatic change; Carbon dioxide; High altitude

Abstract: Knowledge of the vegetation response to climate change is necessary to assess and predict realistic ecosystem development in the antipicated, CO2-induced warmer world, particularly at high latitudes where greater warming is expected. Reconstruction of vegetation development over the past 1,000 years may be helpful in this respect, because this period was characterized by contrasting climatic conditions. Here we report the reconstruction of wind-exposed, tree-line vegetation associated with long-term climate change in northern Canada, using tree-ring and growth-form analyses of spruce subfossils. Three major types of growth form within the exposed, but stable, lichen-spruce community successively predominated in response to climate forcing: high krummholz (dwarf spruce, less than 2-m high) with scarce small (greater than 2-m high) trees (AD 1305-1435, cool period), trees (greater than 2-3 m high) and high krummholz (AD 1435-1570, warm period) and low krummholz (less than or about 50 cm) (little ice age to present: AD 1570 onwards, cold period and present climate, respectively). Whereas the expansion of a marginal lichen-spruce woodland climaxed during the late Middle Ages (AD 1435-1570), present development of a low-krummholz vegetation at these sites seems to be out of phase with the twentieth century warming. This suggests that ecosystem recovery to global warming is not straightforward, depending on the nature of vegetation structure present at the time climate change occurred. The implications of such ecosystem resilience for the detection and monitoring of the expected CO2-induced warming is discussed, particularly for the climate-sensitive arctic and subarctic regions.

359 **NAL Call No: GB611.D47**
Reflections on desertification 1977-1987: problems and prospects.
Rapp, A.
Nairobi, Kenya : United Nations Environment Programme; 1987.
Desertification control bulletin (15): p. 27-33. maps; 1987. Includes references.

Language: English

Descriptors: Africa; Desertification; Climatology; Land use; Climatic change; Dry farming; Arid zones; International cooperation

360 **NAL Call No: 500 AM322A**
Regional analysis of the central Great Plains.
Burke, I.C.; Kittel, T.G.F.; Lauenroth, W.K.; Snook, P.; Yonker, C.M.; Parton, W.J.
Washington, D.C. : The Institute; 1991 Nov.
BioScience - American Institute of Biological Sciences v. 41 (10): p. 685-692; 1991 Nov. Includes references.

Language: English

Descriptors: U.S.A.; Land management; Plains; Biomass production; Carbon cycle; Climatic change; Ecosystems; Environmental factors; Simulation models; Site factors

361 **NAL Call No: QC981.8.C5G76**
Regional intercomparisons of general circulation model predictions and historical climate data.
Grotch, Stanley L.
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, DC : U.S. Dept. of Energy ; Springfield, Va. : available from N.T.I.S.; 1988.
xviii, 291 p. : ill. ; 28 cm. (DOE/NBB ; 0084). TR041. April 1988. Prepared under contract no. W-7405-ENG-48. Bibliography: p. 257-258.

Language: English

Descriptors: Atmospheric carbon dioxide; Environmental aspects; Climatic changes; Mathematical models; Atmospheric circulation; Mathematical models; Precipitation (Meteorology); Air; Thermal properties

362 NAL Call No: 472 N21
Relationship between atmospheric CO2 variations and a satellite-derived vegetation index.
Tucker, C.J.; Fung, I.Y.; Keeling, C.D.; Gammon, R.H.
Neptune, N.J. : Macmillan Journals; 1986 Jan16.
Nature v. 319 (6050): p. 195-199. ill; 1986 Jan16. Includes 37 references.

Language: English

Descriptors: Carbon dioxide; Atmosphere; Vegetation; Remote sensing; Satellites; Bioclimatic indexes

363 NAL Call No: 99.8 F762
Releaf for global warming.
Sampson, R.N.
Washington, D.C. : American Forestry Association; 1988 Nov.
American forests v. 94 (11/12): p. 9-14. ill; 1988 Nov.

Language: English

Descriptors: Afforestation; Organizations; Environmental degradation; Pollution; Climatic factors; Deforestation; Development projects

364 NAL Call No: QC981.8.C5158 1985
Report of the International Conference on the Assessment of the Role of Carbon Dioxide and of Other Greenhouse Gases in Climate Variations and Associated Impacts, Villach, Austria, 9-15 October 1985.
World Climate Programme, International Council of Scientific Unions, United Nations Environment Programme, World Meteorological Organization
International Conference on the Assessment of the Role of Carbon Dioxide and of Other Greenhouse Gases in Climate Variations and Associated Impacts 1985 : Villach, Austria.
Paris : International Council of Scientific Unions; 1986.
78 p. : ill. ; 30 cm. (WMO (Series) ; 661.). At head of title: World Climate Programme. Sponsored by the International Council of Scientific Unions, the United Nations Environment Programme, and the World Meteorological Organization. Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Congresses; Environmental impact analysis; Congresses; Atmospheric carbon dioxide; Environmental aspects; Congresses; Greenhouse gases; Congresses; Greenhouse effect, Atmospheric; Congresses

365 NAL Call No: 290.9 AM32T
Response of crop yield to predicted changes in climate and atmospheric CO2 using simulation.
Curry, R.B.; Peart, R.M.; Jones, J.W.; Boote, K.J.; Allen, L.H. Jr
St. Joseph, Mich. : American Society of Agricultural Engineers; 1990 Jul.
Transactions of the ASAE v. 33 (4): p. 1383-1390; 1990 Jul. Includes references.

Language: English

Descriptors: Southeastern states of U.S.A.; Glycine max; Crop yield; Climatic change; Atmosphere; Carbon dioxide; Simulation models; Irrigation

Abstract: Soybean growth and yield for 19 locations in southeastern U.S.A. were simulated for 30 years (1951-80) of climate data. Three different climate change scenarios, with and without supplemental irrigation, were used with the SOYGRO crop model. The three climate scenarios were standard historic data and two scenarios based on changes predicted by two general circulation models (GCM) for a doubling of atmospheric carbon dioxide. Results were analyzed for four different conditions; normal weather, doubled CO2 alone, climate change alone, and the combined effect of climate change and doubled CO2. Results indicate 1) yields vary widely with climate scenario; 2) increased water use and irrigation need for the combined case of doubled CO2 and climate change; and 3) simulation is a useful tool for this type of study.

366 NAL Call No: 472 N21
Response of northern forests to CO2-induced climate change.
Pastor, J.; Post, W.M.
London : Macmillan Magazines Ltd; 1988 Jul07.
Nature 334 (6177): p. 55-58; 1988 Jul07. Includes references.

Language: English

Descriptors: North America; Forest influences; Forest trees; Growth; Inhibition; Yield losses; Plant density; Forest ecology; Climatic change;

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Carbon dioxide

367 NAL Call No: QH543.P76
Response of the North American corn belt to climatic warming.
Blasing, T.J.; Solomon, A.M.
Lisse : Swets & Zeitlinger; 1984.
Progress in biometeorology v. 3: p. 311-321. maps; 1984. Paper presented at the "Symposium on Interactions between Climate and Biosphere," March 21-23, 1983, Osnabruck, West Germany. Includes references.

Language: English

Descriptors: North America; Agricultural regions; Zea mays; Climate; Temperature; Atmosphere; Carbon dioxide; Crop production

368 NAL Call No: QC981.8.C5R47
Response of the North American corn belt to climatic warming,CO2.
United States, Dept. of Energy, Office of Energy Research, United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, D.C. : prepared for U.S. Dept. of Energy, Office of Energy Research, Office of Basic Energy Sciences, Carbon Dioxide Research Division ; Springfield, Va. : available from NTIS; 1983.
ii, 27 p. : ill., maps ; 28 cm. Cover title. August 1983. DOE/NBB-0040. TR006. Bibliography: p. 25-27.

Language: English

Descriptors: Atmospheric carbon dioxide; Climatic changes; Corn

369 NAL Call No: SD387.E58R4
Response of unmanaged forests to CO2-induced climate change available information, initial tests, and data requirements.
Solomon, Allen M.
United States, Dept. of Energy, Office of Basic Energy Sciences, Carbon Dioxide Research Division
Washington, D.C. : The Division ; Springfield, Va. : Available from NTIS; 1984.
xiii, 93 p. : ill., maps ; 28 cm. April 1984. Contract no. W-7405-ENG-26. TR009. DOE/NBB-0053. Dist. Category UC-11. Bibliography: p. 77-93.

Language: English

Descriptors: Forests and forestry, Environmental aspects, North America; Forest microclimatology, North America; Carbon dioxide

370 NAL Call No: QH540.F85
Response to CO2 enrichment in 27 herbaceous species.
Hunt, R.; Hand, D.W.; Hannah, M.A.; Neal, A.M.
Oxford, U.K. : British Ecological Society; 1991.
Functional ecology v. 5 (3): p. 410-421; 1991. Includes references.

Language: English

Descriptors: Plants; Helianthus annuus; Zea mays; Carbon dioxide enrichment; Biomass production; Dry matter accumulation; Adaptability; Climatic change; Plant ecology; Plant competition; Competitive ability; Equations

371 NAL Call No: 410 EC7
The responses of a forest model to serial correlations of global warming.
Cohen, Y.; Pastor, J.
Tempe, Ariz. : The Society; 1991 Jun.
Ecology : a publication of the Ecological Society of America v. 72 (3): p. 1161-1165; 1991 Jun. Includes references.

Language: English

Descriptors: Forest ecology; Forest trees; Air temperature; Carbon dioxide; Climatic change; Ecosystems; Nitrogen; Nutrient availability; Simulation models

372 NAL Call No: Q225.I7
Rethinking the economics of global warming.
Miller, A.; Mintzer, I.; Brown, P.G.
Washington, D.C. : National Academy of Sciences; 1990.
Issues in science and technology v. 7 (1): p. 70-73; 1990. Includes references.

Language: English

Descriptors: Climatic change; Economics

373 NAL Call No: S600.7.E93N3 1985
Rising atmospheric CO2 evapotranspiration.
Allen, L.H. Jr; Jones, P.; Jones, J.W.
St. Joseph, Mich. : American Society of Agricultural Engineers; 1985.
Advances in Evapotranspiration : proceedings of the National Conference on Advances in Evapotranspiration, December 16-17, 1985, Hyatt Regency Chicago, Chicago, Illinois. p. 13-25; 1985. (ASAE publication ; 14-85). Literature review. Includes 41 references.

Language: English

Descriptors: Evapotranspiration; Carbon dioxide; Atmosphere; Photosynthesis; Leaves; Transpiration; Water use efficiency; Mathematical models

374 NAL Call No: SD390.7.G73G74
Rising carbon dioxide, climate change, and forest management: an overview.
Sandenburgh, R.; Taylor, C.; Hoffman, J.S.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 113-121; 1987. Includes references.

Language: English

Descriptors: Forest trees; Photosynthesis; Productivity; Climatic change; Carbon dioxide; Growth rate; Thermal radiation; Forest management

375 NAL Call No: QK710.P55
Rising CO2 levels and their potential significance for carbon flow in photosynthetic cells.
Stitt, M.
Oxford : Blackwell Scientific Publications; 1991 Oct.
Plant, cell and environment v. 14 (8): p. 741-762; 1991 Oct. Literature review. Includes references.

Language: English

Descriptors: Plants; Carbon dioxide enrichment; Photosynthesis; Ribulose-bisphosphate carboxylase; Enzyme activity; Sucrose; Carbohydrate metabolism; Acclimatization; Source sink relations; Literature reviews

376 NAL Call No: S541.5.A4M57
The rising level of atmospheric carbon dioxide: an agricultural perspective.
Wittwer, S.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 163-169. ill; 1984 Mar. Includes references.

Language: English

Descriptors: Carbon dioxide; Climatic change; Agroclimatology; Photosynthesis; Plant competition

377 NAL Call No: QC981.8.G56E34
The rising tide global warming and world sea levels.
Edgerton, Lynne T.
Washington, D.C. : Island Press; 1991.
xviii, 140 p. : ill. ; 24 cm. Includes bibliographical references (p. 122-128) and index.

Language: English

Descriptors: Global warming; Climatic changes; Sea level; Science and state; Science and state

378 NAL Call No: SD13.C35
The role of climate on present and past vitality of silver fir forests in the Vosges mountains of northeastern France.
Becker, M.
Ottawa, Ont. : National Research Council of Canada; 1989 Sep.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 19 (9): p. 1110-1117; 1989 Sep. Includes references.

Language: English

Descriptors: France; Abies alba; Dendroclimatology; Growth rings; Climatic factors; Carbon dioxide; Air pollution

379 NAL Call No: 450 AN7
The role of ozone in global change.
Ashmore, M.R.; Bell, J.N.B.
London : Academic Press; 1991 Jun.
Annals of botany v. 67 (suppl.1): p. 39-48; 1991 Jun. Literature review. Includes references.

Language: English

Descriptors: Climatic change; Air pollution; Ozone; Forest trees; Crops; Phytotoxicity; Literature reviews

Abstract: Over recent years convincing evidence has emerged of both a decrease in stratospheric ozone concentrations and an increase in tropospheric ozone concentration These trends can be attributed primarily to increased global emissions of chlorofluorocarbons and of nitrogen oxides, respectively. Ozone plays an important role in the earth's atmosphere and changes in its concentration are of concern for several reasons: increased penetration of ultraviolet (UV) radiation, a contribution to global warming, perturbations in atmospheric chemistry, and direct toxic effects on the terrestrial biosphere. Concern over the direct toxic effects arises both from the expansion of the global area affected by regional episodes of elevated ozone concentrations, and an increased concentration in the background troposphere. Tropospheric

ozone concentrations will continue to rise, in the absence of effective emission control measures, because of increased energy consumption and motor vehicle use, and any increase in concentrations will have detrimental effects on sensitive terrestrial ecosystems. Ozone should be considered as a component of global change, and priority be given to understanding its interaction with other, more important, factors such as CO2 concentration, water availability and temperature. Other important interactions may arise from the fact that ozone alters the performance of herbivorous insect pests and of plant pathogens, which will themselves be influenced by climate change.

380 NAL Call No: QC879.8.R642 1979
The Role of temperate zone forests in the world carbon cycle problem definition and research needs.
Armentano, T. V.; Hett, J.
United States, Dept. of Energy, Office of Health and Environmental Research, Institute of Ecology Indianapolis, Ind. : Institute of Ecology (TIE); 1979.
ii, 69 leaves : ill., maps ; 28 cm. "Prepared for Dept. of Energy, Office of Environment, Office of Health and Environmental Research, Carbon Dioxide and Climate Research Program", cover. Work supported by U.S. Department of Energy, Office of Environment, under contract no. 79EV10040.000. Photocopy. "Report of a workshop, Indianapolis, Indiana, March 21-22, 1979", cover. "DOE/ET-10040-1", cover. "N80-23883", cover. Bibliography: p. 39-43.

Language: English

Descriptors: Atmospheric carbon dioxide; Forest influences

381 NAL Call No: QC988.A66G4
Role of the tropics in atmospheric chemistry.
Crutzen, P.J.
New York : John Wiley for the United Nations University; 1987.
The Geophysiology of Amazonia : vegetation and climate interactions / Robert E. Dickinson, editor. p. 107-130; 1987. Literature review. Includes references.

Language: English

Descriptors: Biomass; Ecosystems; Flora; Forest influences; Tropical forests; Vegetation; Atmospheric sciences; Gases; Carbon dioxide; Carbon monoxide; Hydrogen; Methane

382 NAL Call No: QC981.8.G56S32
Scientific perspectives on the greenhouse problem.
George C Marshall Institute
Washington, D.C. George C Marshall Institute; 1989.
i, 37 p. : ill. ; 24 cm. The George C Marshall Institute provides technical assessments of scientific developments with a major public policy impact.

Language: English

Descriptors: Greenhouse effect; Global warming; Climatic changes

383 NAL Call No: QC981.8.G56S3
Scientific perspectives on the greenhouse problem executive summary.
George C Marshall Institute
Washington, D.C. George C Marshall Institute; 1989.
13 p. : ill. ; 24 cm. Extract from the full report... The George C Marshall Institute provides technical assessments of scientific developments with a major public policy impact.

Language: English

Descriptors: Greenhouse effect; Global warming; Climatic changes

384 NAL Call No: RA565.S365
Scientific uncertainty and decision making: the case of greenhouse gases and global climate change.
Laurmann, J.A.
Amsterdam, Netherlands : Elsevier Science Publishers B.V.; 1986 Nov01.
The science of the total environment v. 55: p. 177-186; 1986 Nov01. Includes references.

Language: English

Descriptors: Greenhouses; Gases; Carbon dioxide; Climate

385 NAL Call No: 99.8 F768
Scientists studying "the greenhouse effect" challenge fears of global warming.
Wheeler, D.L.
Bethesda, Md. : Society of American Foresters; 1990 Jul.
Journal of forestry v. 88 (7): p. 34-36; 1990 Jul. Includes references.

Language: English

Descriptors: Climatic change; Temperatures; Human activity; Carbon dioxide; Computer applications

386 NAL Call No: S541.5.A4M57
Sea ice, carbon dioxide, and climate.
Weller, G.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 199-208. ill., maps; 1984 Mar. Literature review. Includes references.

Language: English

Descriptors: Antarctica; Carbon dioxide; Oceanography; Climatic change; Icebergs; Temperature relations

387 NAL Call No: 470 S12
A second look at the impacts of climate change.
Ausubel, J.H.
Research Triangle Park, N.C. : Sigma Xi, The Scientific Research Society; 1991 May.
American scientist v. 79 (3): p. 210-221; 1991 May. Includes references.

Language: English

Descriptors: Agriculture; Ecology; Climatic change

388 NAL Call No: QC981.8.C5S96 1991
Second Symposium on Global Change Studies, Jan. 14-18, 1991, New Orleans, La.
American Meteorological Society
Symposium on Global Change Studies 2nd : 1991 : New Orleans, La.
Boston, MA : American Meteorological Society; 1991.
ix, 136, [39] p. : ill. ; 28 cm. Includes bibliographical references and index.

Language: English

Descriptors: Climatic changes

389 NAL Call No: QH540.E55
Sensitivity of the arctic climate: a factor in developing planning strategies for our Arctic Heritage.
LeDrew, E.F.
Geneva : Elsevier Sequoia S.A.; 1986.
Environmental conservation v. 13 (3): p. 215-228. ill., maps; 1986. Includes references.

Language: English

Descriptors: Arctic regions; Climate; Climatic change; Development; Planning; Conservation; Ecology

390 NAL Call No: SD143.S64
Siege of 1987: 100-year occurrence or harbinger of tomorrow.
Blonski, K.S.
Bethesda, Md. : The Society; 1989.
Proceedings of the ... Society of American Foresters National Convention. p. 80-82; 1989. Meeting held Oct 16-19, 1988, Rochester, New York.

Language: English

Descriptors: California; Forest fires; Wildfires; Fire control; Planning; Population pressure; Climatic change

391 NAL Call No: QH543.P76
The significance of biospheric carbon pools and fluxes for the atmospheric CO2: a proposed model structure.
Esser, G.
Lisse : Swets & Zeitlinger; 1984.
Progress in biometeorology v. 3: p. 253-294. maps; 1984. Paper presented at the "Symposium on Interactions between Climate and Biosphere," March 21-23, 1983, Osnabruck, West Germany. Includes statistical data. Includes references.

Language: English

Descriptors: Atmosphere; Carbon dioxide; Biota; Vegetation; Source sink relations; Models

392 NAL Call No: GB395.A73
The significance of the date of snow disappearance on the arctic tundra as a possible indicator of climate change.
Foster, J.L.
Boulder, Colo. : Institute of Arctic and Alpine Research, University of Colorado; 1989 Feb.
Arctic and alpine research v. 21 (1): p. 60-70. maps; 1989 Feb. Includes references.

Language: English

Descriptors: Alaska; U.S.S.R.; Canada; Scandinavia; Snow cover; Winter; Duration; Arctic tundra; Climatic change; Albedo; Air pollution; Polar climate; Trends

393 NAL Call No: QC981.S55
Simulating climate with two different numerical schemes.
Gutowski, William J.
Carbon Dioxide Research Program (U.S.)

72

Washington, D.C. : The Department ; Springfield, Va. : Available from National Technical Information Service; 1990.
vii, 57 p. : ill. ; 28 cm. "C02", Cover. June 1990. TRO49. DOE/ER-0459T. Contract no. DE-FG02-86ER60422. Includes bibliographical references (p. 55-57).

Language: English

Descriptors: Climatology; Climatic changes; Atmospheric circulation

394 **NAL Call No: SD390.7.G73G74**
Simulating forest ecosystem responses to expected climate change in eastern climate change in eastern North America: applications to decision making in the forest industry.
Solomon, A.M.; West, D.C.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 189-217; 1987. Literature review. Includes references.

Language: English

Descriptors: Ontario; Michigan; North eastern states of U.S.A.; South eastern states of U.S.A.; Forest trees; Forest ecology; Growth rate; Climatic change; Carbon dioxide; Simulation; Models; Decision making

395 **NAL Call No: FICHE S-72**
Simulation as a tool for analyzing crop response to climate change.
Curry, R.B.; Jones, J.W.; Boote, K.J.; Allen, L.H. Jr
St. Joseph, Mich. : The Society; 1988.
American Society of Agricultural Engineers (Microfiche collection) (fiche no. 88-7512): 30 p. maps; 1988. Paper presented at the 1988 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. Includes references.

Language: English

Descriptors: Zea mays; Glycine max; Weather data; Atmosphere; Carbon dioxide; Yield response functions; Simulation models

396 **NAL Call No: 290.9 AM32T**
Simulation as a tool for analyzing crop response to climate change.
Curry, R.B.; Peart, R.M.; Jones, J.W.; Boote, K.J.; Allen, L.H. Jr
St. Joseph, Mich. : American Society of Agricultural Engineers; 1990 May.
Transactions of the ASAE v. 33 (3): p. 981-990. maps; 1990 May. Includes references.

Language: English

Descriptors: Glycine max; Zea mays; Growth; Weather; Simulation models; Irrigation; Carbon dioxide

397 **NAL Call No: 472 N21**
Simulation of the regional climatic impact of Amazon deforestation.
Lean, J.; Warrilow, D.A.
London : Macmillan Magazines Ltd; 1989 Nov23.
Nature v. 342 (6248): p. 411-413. maps; 1989 Nov23. Includes references.

Language: English

Descriptors: South America; Deforestation; Erosion; Climatic change; Simulation models; Tropical rain forests

Abstract: The Amazon basin contains about half of Earth's Tropical forest. Population pressure and subsequent demands for crop production, timber and firewood have led to rapid deforestation. Quantitative estimates of the rate of deforestation from analysis of Landsat observations indicate that rates are increasing exponentially in many regions, but the precise figures are not known. Removal of the protection provided by natural cover can lead to soil erosion, disturbance of the ecosystem and reduction in species diversity. Here we report results from a three-year simulation, using a general circulation model, in which we replace Amazon tropical forest and savannah with pasture. The simulated local climate response was dominated by a weakened hydrological cycle, with less precipitation and evaporation and an increase in surface temperature. The reductions in precipitation and evaporation were mostly caused by changes in surface roughness and albedo: decreased roughness dominated the reduction in evaporation (and the increase in temperature), whereas the increased albedo was the main cause of a decrease in the moisture flux convergence (measured as the difference between precipitation and evaporation) contributing to the decrease in precipitation.

398 NAL Call No: TD420.A1E5
Slowing global warming.
Flavin, C.
Washington, D.C. : American Chemical Society; 1990 Feb.
Environmental science & technology v. 24 (2): p. 170-171. ill; 1990 Feb. Includes references.

Language: English

Descriptors: Air pollution; Air pollutants; Temperature inversion; Carbon dioxide; Forest influences; Climatic change

399 NAL Call No: 99.8 F762
Slowing global warming.
Flavin, C.
Washington, D.C. : American Forestry Association; 1990 Jun.
American forests v. 96 (5/6): p. 37-44; 1990 Jun.

Language: English

Descriptors: Climatic change; Temperatures; Air pollution; Environmental pollution; Fossil fuels; Emission; Deforestation

400 NAL Call No: QC981.8.G56F52
Slowing global warming a worldwide strategy.
Flavin, Christopher
Worldwatch Institute
Washington, D.C., USA : Worldwatch Institute; 1989.
94 p. : ill. ; 22 cm. (Worldwatch paper ; 91). October 1989. Bibliography: p. 75-94.

Language: English

Descriptors: Global warming; Climatic changes; Greenhouse effect, Atmospheric

401 NAL Call No: QC981.8.C5S634
Societal responses to regional climatic change forecasting by analogy.
Glantz, Michael H.
Boulder, Colo. : Westview Press; 1988.
428 p. : ill. ; 23 cm. Includes bibliographies.

Language: English

Descriptors: Climatic changes; Social aspects; North America; Environmental impact analysis; North America

402 NAL Call No: QK867.J67
Soil organic matter and the global carbon cycle.
Wallace, A.; Wallace, G.A.; Cha, J.W.
New York, N.Y. : Marcel Dekker; 1990.
Journal of plant nutrition v. 13 (3/4): p. 459-466; 1990. Paper published in "Interactions of Limiting Factors in Crop Production", a special issue devoted to research papers by Dr. Arthur Wallace. Includes references.

Language: English

Descriptors: Organic matter in soil; Carbon cycle; Soil amendments; Organic fertilizers; Microbial degradation; Soil flora; Nitrogen; Nutrient availability; Limiting factors; Nitrogen fixation; Carbon dioxide; Atmosphere; Air temperature; Climatic change

403 NAL Call No: S596.3.I58 1989
Soils and the greenhouse effect the present status and future trends concerning the effect of soils and their cover on the fluxes of greenhouse gasses, the surface energy balance, and the water balance : proceedings of the International Conference Soils and the Greenhouse Effect.
Bouwman, A. F.
International Soil Reference and Information Centre, Netherlands, Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer, Commission of the European Communities, United Nations Environment Programme
International Conference Soils and the Greenhouse Effect 1989 : Wageningen, Netherlands.
Chichester ; New York : Wiley; 1990.
xviii, 575 p. : ill. ; 24 cm. Sponsored by the Commission of the European Communities (CEC), the United Nations Environment Programme (UNEP). Conference held Aug. 14-18, 1989, Wageningen, Netherlands. Includes bibliographical references and index.

Language: English

Descriptors: Soils and climate; Congresses; Greenhouse effect, Atmospheric; Congresses; Soil ecology; Congresses

404 NAL Call No: S541.5.A4M57
Some aspects of vegetation and temperature relationships in the Alaska taiga.
Viereck, L.A.; Van Cleve, K.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 129-142. ill; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Taiga; Weather data; Climatic

change; Forest succession; Treelines and timberlines; Carbon dioxide; Nutrient cycles; Vegetation

405 **NAL Call No: aQK751.U7 1988**
Spatial patterns of climatic response for eastern hemlock and the potential impact of future climatic change.
Cook, E.R.; Cole, J.
Broomall, PA : Northeastern Forest Experiment Station, [1989?]; 1989 Sep.
Air pollution effects on vegetation, including forest ecosystems : proceedings of the Second US-USSR Symposium / edited by Reginald D. Noble, Juri L. Martin, and Keith F. Jensen. p. 27-36. maps; 1989 Sep. Papers presented at an International Conference, September 13-25, 1988, at Corvallis, Oregon; Raleigh, North Carolina; Gatlinburg, Tennessee. Includes references.

Language: English

Descriptors: Tsuga canadensis; Climatic change; Responses

406 **NAL Call No: QC988.A66G4**
Species diversity, phenology, plant-animal interactions, and their correlation with climate, as illustrated by the Brazil nut family (Lecythidaceae).
Mori, S.A.; Prance, G.T.
New York : John Wiley for the United Nations University; 1987.
The Geophysiology of Amazonia : vegetation and climate interactions / Robert E. Dickinson, editor. p. 69-89. ill; 1987. Includes references.

Language: English

Descriptors: Brazil; Lecythidaceae; Forest ecology; Phenology; Plants; Animals; Tropical forests; Interactions; Pollination; Seed dispersal; Climatic change

407 **NAL Call No: S541.5.A4M57**
Spring snow dissipation in Alaska.
Robinson, D.A.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1); p. 124-128. maps; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Carbon dioxide; Snow cover; Albedo; Climatic change; Projections; Spring

408 **NAL Call No: QC881.2.S8U54**
Stratospheric ozone 1988 second report.
United Kingdom Stratospheric Ozone Review Group; Great Britain, Dept. of the Environment, Great Britain, Meteorological Office
London : H.M.S.O.; 1988.
71 p. : ill. ; 30 cm. Prepared at the request of the Department of the Environment and the Meteorological Office. "September 1988", Cover. Includes bibliographical references (p. 57-60).

Language: English

Descriptors: Ozone layer; Atmospheric ozone; Stratosphere; Ozone layer depletion

409 **NAL Call No: KF26.E645 1987e**
Stratospheric ozone depletion and chlorofluorocarbons joint hearings before the Subcommittees on Environmental Protection and Hazardous Wastes and Toxic Substances of the Committee on Environment and Public Works, United States Senate, One hundredth Congress, first session ... May 12, 13, and 14, 1987.
United States. Congress. Senate. Committee on Environment and Public Works. Subcommittee on Environmental Protection; United States. Congress. Senate. Committee on Environment and Public Works. Subcommittee on Hazardous Wastes and Toxic Substances
Washington, [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1987; Y 4.P 96/10-S.hrg.100-201.
v, 677 p. : ill., 1 map ; 24 cm. (S. hrg. ; 100-201). Distributed to some depository libraries in microfiche. Includes bibliographies.

Language: English

Descriptors: Stratosphere, United States; Chlorofluorocarbons; Ozone

410 **NAL Call No: QC881.2.O9U54**
Stratospheric ozone EPA's safety assessment of substitutes for ozone-depleting chemicals : report to the chairman, Committee on Energy and Commerce, House of Representatives. (EPA's safety assessment of substitutes for ozone-depleting chemicals.)
United States. General Accounting Office
Washington, D.C. : The Office; 1989.
66 p. : ill. ; 28 cm. Cover title. February 1989. GAO/RCED-89-49. "B-232917", P. [1]. Includes bibliographical references.

Language: English

Descriptors: Ozone layer; Ozone layer depletion;

Chlorofluorocarbons; Bromotrifluoromethane

411 **NAL Call No: QC881.2.S8U5**
Stratospheric ozone first report.
United Kingdom Stratospheric Ozone Review Group; Great Britain, Dept. of the Environment, Great Britain, Meteorological Office
London : H.M.S.O. : Available from HMSO Publications Centre; 1987.
83 p., [3] p. of plates : ill. (some col.) ; 30 cm. Prepared at the request of the Department of the Environment and the Meteorological Office. Bibliography: p. 77-78.

Language: English

Descriptors: Ozone layer

412 **NAL Call No: 500 AS73**
Summer circulation climate of the American Southwest, 1945-1984.
Carleton, A.M.
Washington, D.C. : The Association; 1987 Dec.
Annals of the Association of American Geographers v. 77 (4): p. 619-634, maps; 1987 Dec. Includes references.

Language: English

Descriptors: U.S.A.; Climatology; Classification; Climatic change; Summer; Prediction

413 **NAL Call No: 80 AM371**
Summer droughts and the "greenhouse effect".
Cosgrove, T.
Chicago, Ill. : American Nurseryman Publishing Company; 1988 Nov15.
American nurseryman v. 168 (10): p. 23-26, 28-30, 32-33; 1988 Nov15.

Language: English

Descriptors: Drought; Summer; Air pollutants; Weather patterns; Heat; Temperatures; Climatology; Models

414 **NAL Call No: Q184.R4**
Surface albedo from bidirectional reflectance.
Ranson, K.J.; Irons, J.R.; Daughtry, C.S.T.
New York, N.Y. : Elsevier Science Publishing; 1991 Feb.
Remote sensing of environment v. 35 (2/3): p. 201-211; 1991 Feb. Paper presented at the "Symposium on Remote Sensing for Agriculture," May 16-18, 1990, Beltsville, Maryland. Includes references.

Language: English

Descriptors: Albedo; Land; Surfaces; Climatology; Climatic change; Remote sensing; Spectral data; Radiometers; Pyranometers; Vegetation; Soil

415 **NAL Call No: KF27.S3978 1988I**
Technologies for remediating global warming hearing before the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on Science, Research and Technology of the Committee on Science, Space, and Technology, U.S. House of Representatives, One Hundredth Congress, second session, June 29, 1988.
United States. Congress. House. Committee on Science, Space, and Technology. Subcommittee on Natural Resources, Agriculture Research, and Environment; United States, Congress, House, Committee on Science, Space, and Technology, Subcommittee on Science, Research, and Technology
Washington [D.C.] : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O.; 1988; Y 4.Sci 2:100/137.
iii, 245 p. : ill. ; 24 cm. Distributed to some depository libraries in microfiche. No. 137. Includes bibliographies.

Language: English

Descriptors: Greenhouse effect, Atmospheric, Technological innovations; Air, Pollution, Meteorological aspects; Environmental policy, United States

416 **NAL Call No: QC981.8.C5T4**
Teleconnections linking worldwide climate anomalies scientific basis and societal impact.
Glantz, Michael H.; Katz, Richard W.; Nicholls, N.
Cambridge [England] ; New York : Cambridge University Press; 1991.
x, 535 p. : ill., maps ; 26 cm. Includes bibliographical references and index.

Language: English

Descriptors: El Nino Current; Climatic changes; Southern oscillation

417 **NAL Call No: S541.5.A4M57**
Temperature trends in the Alaska climate record: problems, update, and prospects.
Juday, G.P.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-1): p. 76-91; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Temperature; Summer; Winter; Seasonal fluctuations; Cyclic fluctuations; Projections; Climatic change

418 NAL Call No: SD143.S64
Threats to a healthy forest by air pollution and climate change.
Addison, P.A.
Bethesda, Md. : The Society; 1989.
Proceedings of the ... Society of American Foresters National Convention. p. 21-26; 1989. Meeting held Oct 16-19, 1988, Rochester, New York. Includes references.

Language: English

Descriptors: Forests; Air pollution; Climatic change; Forest damage; Human activity; Emission

419 NAL Call No: SD390.7.G73G74
Time to prepare for global climatic change.
Roberts, W.O.
Washington, D.C. : Conservation Foundation; 1987.
The Greenhouse effect, climate change, and U.S. forests / edited by William E. Shands and John S. Hoffman. p. 9-17; 1987. Includes references.

Language: English

Descriptors: Climatic change; Carbon dioxide; Weather; Thermal radiation; World problems

420 NAL Call No: QL750.O3
Transient response of forests to CO2-induced climate change: simulation modeling experiments in eastern North America.
Solomon, A.M.
Berlin, W. Ger. : Springer International; 1986.
Oecologia v. 68 (4): p. 567-579. ill., maps; 1986. Includes references.

Language: English

Descriptors: North America; Forests; Climatic change; Carbon dioxide; Simulation models; Stress response

421 NAL Call No: 340.8 AG8
Turbulence spectra of CO2, water vapor, temperature and velocity over a deciduous forest.
Anderson, D.E.; Verma, S.B.; Clement, R.J.; Baldocchi, D.D.; Matt, D.R.
Amsterdam : Elsevier Science Publishers; 1986 Oct.
Agricultural and forest meteorology v. 38 (1/3): p. 81-99. maps; 1986 Oct. Includes references.

Language: English

Descriptors: Deciduous seasonal forests; Carbon dioxide; Water vapor; Air temperature; Velocity; Turbulent flow

422 NAL Call No: NbUS600.T8A53 1983
Turbulent exchange of carbon dioxide, water vapor, heat and momentum over crop surfaces.
Anderson, Dean E.
Lincoln : Center for Agricultural Meteorology and Climatology, University of Nebraska-Lincoln; 1983.
186 p. : ill. ; 28 cm. (Progress report (University of Nebraska, Lincoln. Center for Agricultural Meteorology and Climatology) ; 83-8.). Originally published as the author's thesis. Bibliography: p. 170-181.

Language: English

Descriptors: Plants, Effect of turbulence on; Atmospheric turbulence; Soybean, Field experiments; Sorghum, Field experiments; Meteorology, Agricultural

423 NAL Call No: QC981.8.C5P4
Turning up the heat our perilous future in the global greenhouse.
Pearce, Fred
London, [England] : Bodley Head; 1989.
229 p. : ill. ; 22 cm.

Language: English

Descriptors: Climatic changes; Man; Influence on nature

424 NAL Call No: SD13.C35
Twentieth-century climate change, fire suppression, and forest production and decomposition in northwestern Minnesota.
Clark, J.S.
Ottawa, Ont. : National Research Council of Canada; 1990 Feb.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 20 (2): p. 219-232; 1990 Feb. Includes references.

Language: English

Descriptors: Minnesota; Forest fires; Climatic factors; History; Fire suppression; Fuel accumulation;

Biomass accumulation; Mixed forests; Coniferous forest; Simulation models

425 NAL Call No: QC981.8.C5U48
Understanding climate change.
Berger, A.1942-; Dickinson, Robert E.1940-; Kidson, J.
Washington, D.C. : American Geophysical Union : International Union of Geodesy and Geophysics; 1989.
xi, 187 p. : ill. ; 28 cm. (Geophysical monograph/IUGG series ; 7 Geophysical monograph ; 52) Includes bibliographical references.

Language: English

Descriptors: Climatic changes; Congresses

426 NAL Call No: 275.29 G29B
Understanding global changes: the greenhouse effect.
Coder, K.D.
Athens, Ga. : The Service; 1991 Mar.
Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture (1046): 8 p. ill; 1991 Mar.

Language: English

Descriptors: Environmental temperature; Solar heating; Carbon dioxide

427 NAL Call No: SD143.S64
Urban forestry, carbon dioxide and global climate change.
Rowntree, R.A.
Bethesda, Md. : The Society; 1990.
Proceedings of the ... Society of American Foresters National Convention. p. 429-433; 1990. Paper presented at a meeting on "Forestry on the Frontier," Sept 24-27, 1989, Spokane, Washington. Includes references.

Language: English

Descriptors: Urban forestry; Climatic change; Carbon dioxide; Deforestation; Environmental degradation

428 NAL Call No: QC981.8.C5N37
The U.S. global change research program an assessment of FY 1991 plans. (Global change research program.)
National Research Council (U.S.)
Washington, D.C. : National Academy Press; 1990.
xvi, 107 p. : ill. ; 23 cm. Bibliography: p. 103-[104].

Language: English

Descriptors: Climatic changes; Earth; Geodynamics

429 NAL Call No: HM208.E5
The use of analogies in forecasting ecological and societal responses in global warming.
Glantz, M.H.
Washington, D.C. : Heldref Publications; 1991 Jun.
Environment v. 33 (5): p. 10-15, 27-33; 1991 Jun. Includes references.

Language: English

Descriptors: Climatic change; Precipitation; Soil water; Comparisons

430 NAL Call No: QH540.N3
UV-B radiation and adaptive mechanisms in plants.
Beggs, C.J.; Schneider-Ziebert, U.; Wellmann, E.
Berlin, W. Ger. : Springer-Verlag; 1986.
N.A.T.O. A.S.I (Advanced Study Institute) series. Series G. Ecological sciences v. 8: p. 236-250; 1986. Paper presented at the "Workshop on The Impact of Solar Ultraviolet Radiation upon Terrestial Ecosystems: 1. Agricultural Crops," Sept 27-30, 1983, Windsheim, West Germany. Literature review. Includes references.

Language: English

Descriptors: Ultraviolet radiation; Adaptation; Leaves; Cotyledons; Phaseolus vulgaris; Pigments; Plant damage; Dna; Solar radiation; Radiation protection

431 NAL Call No: 500 IO93
Variability of annual Iowa precipitation during the past 95 years.
Vaughan, H.C.; Berning, D.J.; White, G.R.
Cedar Falls, Iowa : The Academy; 1987 Sep.
The Proceedings of the Iowa Academy of Science v. 94 (3): p. 94-104; 1987 Sep. Includes references.

Language: English

Descriptors: Iowa; Precipitation; Climate; Climatic change

432 NAL Call No: S541.5.A4M57
The variability of the present climate of interior Alaska.
Bowling, S.A.
Fairbanks, Alaska : The Station; 1984 Mar.
Miscellaneous publication - University of Alaska, Agricultural and Forestry Experiment Station (83-

1): p. 67-75; 1984 Mar. Includes references.

Language: English

Descriptors: Alaska; Carbon dioxide; Weather data; Climatic change; Seasonal fluctuations

433 NAL Call No: 56.8 C162
Weather sensitivity of western Canada wheat yield, 1900-1988.
Walker, G.K.
Ottawa : Agricultural Institute of Canada; 1989 Nov.
Canadian journal of soil science v. 69 (4): p. 857-865; 1989 Nov. Includes references.

Language: English

Descriptors: Saskatchewan; Triticum aestivum; Crop yield; Climatic change; Weather data; Simulation models

434 NAL Call No: S592.17.A73S46
Weather-predictive models.
Hargreaves, G.H.; Samani, Z.A.
New York, N.Y. : M. Dekker; 1991.
Semiarid lands and deserts : soil resource and reclamation / edited by J. Skujins. p. 581-603; 1991. (Books in soils, plants, and the environment ;). Includes references.

Language: English

Descriptors: Arid climate; Semiarid climate; Weather; Models; Crop production; Crop yield; Agricultural planning; Climatic change; Prediction

435 NAL Call No: QC983.W435
Weekly climate bulletin.
Climate Analysis Center (U.S.)
Washington, DC : Climate Analysis Center, NMC, National Weather Service, NOAA; 19??-9999.
v. : maps ; 28 cm. Description based on: No. 88/25 (June 18, 1988); title from cover.

Language: English

Descriptors: Weather; Periodicals; Climatic changes; Periodicals; Climatology; Periodicals; United States; Climate; Periodicals

436 NAL Call No: 500 N483J
Where's the heat?
Washington, W.M.
New York, N.Y. : American Museum of Natural History; 1990 Mar.
Natural history (3): p. 67-68, 70. ill., maps; 1990 Mar.

Language: English

Descriptors: Air temperature; Carbon dioxide; Climatology; Circulation; Oceanography

437 NAL Call No: QK710.T4 no.32
Will climatic change provide new challenges for plant physiologists?
PPD Climate Change Collective
Palmerston North, [N.Z.?] : Plant Physiology Division, Dept. of Scientific and Industrial Research, [1989?]; 1989.
6, [6] leaves : ill. ; 30 cm. (Technical report / Plant Physiology Division, Dept. of Scientific and Industrial Research, no. 32). August 1989. Includes bibliographical references (leaf 6).

Language: English

438 NAL Call No: QH540.A52
Will climatic changes flood the Netherlands? Effects on agriculture, land use and well-being.
Hekstra, G.P.
Stockholm : Royal Swedish Academy of Sciences; 1986.
Ambio v. 15 (6): p. 316-326. ill., maps; 1986. Includes 12 references.

Language: English

Descriptors: Netherlands; Climatic change; Carbon dioxide; Floods; Agriculture; Land use; Air pollution

439 NAL Call No: QC981.8.C5
Winds of change living in the global greenhouse.
Gribbin, John; Kelly, Mick,
Kent? : Hodder & Stoughton; 1989.
162 p. : col. ill., maps ; 22 cm. Headway. "This publication accompanies the television documentary "can polar bears tread water?" produced by Central Independant Television plc in association with Television for the Environment and the Better World Society", T.p. verso.

Language: English

Descriptors: Climatic changes

440 NAL Call No: 101 AL1A
Winters are getting drier: and its matters especially to farmers.
McNaughton, N.
Edmonton : Faculty of Agriculture and Forestry, University of Alberta; 1989.

Agriculture and forestry bulletin v. 12 (1): p. 6-8; 1989.

Language: English

Descriptors: Alberta; Climatic change; Winter; Dry conditions; Forecasts

441 NAL Call No: QC983.W67
World climate change report.
BNA International Inc
London, England : BNA International Inc.; 1989-1990.
World climate change report. v. : ill. ; 30 cm; 1989-1990. Description based on: Vol. 1, no. 8 (June 1990); title from caption.

Language: English

Descriptors: Climactic changes; Climatology; Environmental policy

442 NAL Call No: QC981.8.C5W6
World-wide weather. (Seikai no kisho. World wide weather.)
Takahashi, Koichiro,
Rotterdam : A.A. Balkema; 1986.
xv, 252 p. : ill., maps ; 25 cm. Translation of: Seikai no kisho. Originally published: Mainichi Shimbunsha, Tokyo, 1975. Includes bibliographical references (p. [250]-252).

Language: English

Descriptors: Climatic changes; Climatology; Solar radiation

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